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HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES.

JULY—DECEMBER.

1869.



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THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,

AND OF

THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

EDITED BY

WILLIAM DOMETT STONE, M.D., F.R.C.S. (EXAM.)

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*Some Remarks on the Nature and Causes of Disease.*

By SAMUEL WILKS, M.D., F.R.C.P., Physician and Lecturer
on Medicine at Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir.
Review*, October.)

DR. WILKS adduces the well-known division of the causes of disease into the predisposing and exciting, as an example of the conviction existing in people's minds that disease is of a twofold nature, namely, extrinsic and intrinsic, one kind arising from without and another from within. Thus, typhus fever is excited by contagion in a person predisposed to its reception by bodily or mental fatigue, and chorea is excited by fright in a child predisposed on account of its nervous temperament. But the term cause in these cases is used very differently, for in the one it is meant that the disease is itself implanted like a seed in a soil prepared for its growth, and in the other we simply refer to an influence developing the innate tendencies of the child to a particular morbid action. Thus, too, small-pox and consumption have nothing in common, except that they are both diseases, the one being a deranged condition of body due entirely to an external agency, the other arising from a cause which is altogether within.

The tendency of Dr. Wilks's argument appears to be to prove that diseases really originate in some peculiar condition of the body itself, and that they are, as it were, the manifestations of some long-standing constitutional disturbance. The subject of predisposition was the most important branch of medicine studied by the ancients, among whom exact diagnosis was unknown; but among modern physicians the improvements made in the physical investigation of particular organs have tended much to narrow men's minds to a localised pathology; but this tendency carried out as it has been in the present day, appears to be

founded on mercantile rather than on scientific principles. Dr. Wilks would, therefore, resist this tendency to the unnecessary localisation and subdivision of diseases, and would desire that more attention should be paid than is done at present to the different diatheses or constitutions of patients. The ancient writers divided civilized man, for several generations, according as he had a superfluity of blood, of phlegm, of yellow bile, or of black bile, or, in other words, he was designated as sanguineus, phlegmatic, choleric, and melancholic; and these terms are sometimes used even in the present day. But more modern writers, as Dr. Laycock, have divided men into other diathetic categories, as the arthritic, the strumous, the nervous, the bilious, and the lymphatic. Some of these terms are appropriate; but with respect to the strumous, Dr. Wilks agrees with the writers who believe that two very different conditions have been included under that name, and that the unhealthy-looking children with large heads, narrow chests, and protuberant bellies, are very unlike in constitution to the tall, handsome, and often vigorous-looking subjects who become in adult life the victims of consumption. Dr. Wilks proceeds to offer a number of ingenious remarks upon other temperaments, as the arthritic, the nervous, and the bilious; and he suggests that the physician should carefully study these peculiarities of constitution, with a view of obtaining correct notions of the nature and cause of disease, and, consequently, of the best methods of treating it.

ART. 2.—*The Spontaneous Cure of Hydatid Cysts.*

By CHARLES KELLY, M.D., Assistant Physician and Pathologist
to King's College Hospital.

(*British and Foreign Medico-Chir. Review*, October.)

The paper commences with an account of those hydatid cysts which are found after death in a pulpy-like condition; and arguments are brought forward against the theory, generally received, that this condition is brought about by the absorption of the fluid contents and consequent contraction of the cyst. In most of the cases which have been recorded mention has been constantly made of a shrunken hydatid cyst, and the convolutions of the endo-cyst which are so frequently met with are adduced as proofs of the contraction having taken place.

Against this view of absorption of the fluid contents, it is shown—1. That there is no vascular connexion between the outer fibrous sac and the endo-cyst by which such a process could occur. 2. That there were no signs of puckering or contraction, in the cases recorded, of the surrounding tissues, as should be the case if absorption had occurred. 3. That some small tumours had been found in this condition in the substance of the liver, while the tissue around was merely condensed. 4. That the outer sac was generally globular and tense. 5. That, although drugs had been given in some cases with the apparent effect of causing absorption, yet this was not verified by post-mortem examination. The author maintains that the explanation of the phenomena that occurred is, that the hydatid, becoming imbedded in an organ,

soon had a fibrous sac formed around it from the condensation of the surrounding tissues; that as the hydatid grew this sac expanded in proportion, if the walls were not too resisting, and if they were properly nourished; as a consequence, the laminated endo-cyst merely lined the sac, and the fluid contents were derived from the pabulum, which, having passed through the fibrous tissue, moistened the outer surface of the endo-cyst, which then secreted the hydatid fluid.

If, on the other hand, the outer sac were too resisting, the expansion ceased, and in consequence of the relative disproportion of growth, the endo-cyst became folded upon itself, as was found nearly constantly in post-mortem examinations.

For a while nutritive changes went on, till, after a time, the supply of pabulum was not enough to nourish the hydatid, and it died; or, in other cases, the outer sac became atheromatous and calcified, and death ensued from the nutritive fluid being cut off.

The cure, then, was the result, not of absorption of the fluid contents, but of the death of the hydatid from not receiving enough pabulum on which it could live.

Thus the involutions of the endo-cyst were not produced by the contraction of a larger cyst, but were a natural consequence of an impeded growth; this accounted also for the globular shape of the sac and the absence of any cicatrization of the tissues. In nearly all the cases recorded the cysts were of small size and seldom recognised during life. The diagnosis of some would most probably have been made if they had once been larger, as the endo-cyst has been met with four times the superficial area of the outer sac, and in most two or three times the size. Now, if the endo-cyst had merely lined the outer sac, as is the case where they contain much fluid, the cyst must have once been of such a size as to give rise to symptoms, and to have been made out during the lifetime of the patient.

The conditions favourable for spontaneous cure were—1. A dense, unyielding, outer fibrous sac. 2. Atheromatous or calcareous changes in the fibrous tissue which forms the sac. 3. Relative disproportion of growth between the endo-cyst and the sac in which it lies. 4. Situation in a confined part so as to prevent rapid growth or expansion.

All these changes concurred in preventing a due amount of pabulum from entering the sac, and so causing the death of the hydatid. An opposite condition of the tissues led to the formation of a large cyst with very fluid contents.

In all cases the hydatid would begin in the same manner, but during its early development the above conditions would lead to spontaneous cure, or, if absent, would cause a large cyst to be formed.

If these views be correct, it follows that as soon as an hydatid cyst is diagnosed to contain fluid, it is of no use waiting for absorption to occur, as spontaneous cures are not brought about by that method, and it is equally useless to give large quantities of any drug, as medicines seem to have no effect on a cyst.

On the other hand, when a solid hydatid cyst is diagnosed it had better be left alone, as it is already cured, and will produce no evil effects.

A table is appended with a short account of thirty cases in which

this spontaneous cure had taken place. The following is a list of the organs in which the cysts have been situated:

	No. of Cysts.
Liver	32
Omentum	3
Spleen	1
Between bladder and rectum	2
Between stomach and colon	1
In vertebral canal	1
Total	<hr/> 40

Nearly all the cysts were met with in the liver; none in any position where compression could not have been exerted.

ART. 3.—*On Dysenteric Arthritis.*

By Dr. HUETTE.

(*Archives Générales de Médecine*, August, 1869.)

1. There exists a variety of arthritis which recognises as its unique and necessary cause epidemic phlegmasia of the mucous membranes of the rectum and colon.

2. This rheumatic manifestation does not present itself during every epidemic of dysentery; it is subordinated to the influence of a special morbid constitution; an individual diathetic condition may favour its development.

3. Dysenteric arthritis is essentially apyretic, and differs in its causes, its progress, its general physiognomy, and its consequences from simple articular rheumatism. It presents a great analogy with hæmorrhagic rheumatism.

4. Dysenteric arthritis, nearly always polyarticular, varies very much in duration between several weeks and several months. It terminates in resolution in the great majority of cases; it may, under certain rare circumstances, terminate in suppuration and ankylosis.

5. Metastasis does not explain the law which rules over the appearance of arthritis as was supposed by the ancient writers; it is more rational to explain it by a morbid affinity which, the mucous membranes being diseased, sets up reflex pathological effects in the other tissues of the economy.

ART. 4.—*On Counter-Irritation.*

By R. B. PAINTER, M.D., F.R.C.S. Exam.

(*The Lancet*, April 24.)

Dr. Painter states that he ventures to differ from Drs. Dickinson and Anstie, who object that counter-irritation cannot do good, unless there is a *direct* connexion between the diseased part and the irritated part,

and that if there is that connexion, a blister may do positive harm by being placed too near the inflamed part.

Dr. Painter quite agrees that counter-irritation in the acute stage of disease, especially in children, may be most prejudicial, or if employed too near an acutely inflamed joint, pericardium, or pleura; but if applied at the proper time and place, he believes great good may be effected in several ways.

1. In all internal inflammation and congestion, from deficient nerve-force and consequent dilatation of the capillaries, from partial palsy of vaso-motor nerves, the stimulus of the peripheral nerves may be so reflected by the efferent branches as to cause contraction of the dilated capillaries, and in that way resolution.

2. Or by setting up artificially an inflammation on one part of the body you may, by vicarious action, cause the internal inflammation or morbid condition to cease in another part.

3. Or the impression or new action set up by the irritant may break the continuity of the morbid nutrition, as a bad habit may be broken by a sudden necessity or shock.

4. Or the artificially produced discharge may, according to the old belief, carry off peccant humours in some diseases, and benefit in a chemical manner.

5. Or if products of inflammation have been effused, blistering may stimulate absorption.

"I believe," Dr. Painter writes, "that any one or more of these physiological or chemical effects may be produced without there being any *direct* vascular or nervous connexion between the parts primarily affected, and secondarily irritated—that is to say, there need not necessarily be immediate connexion by capillary anastomosis, and afferent and efferent nerve union. Surely in the case of the nerves (and we know how they influence the vessels) it is not needful to prove a *direct* communication. Do we not all know how marvellously the nerves are connected throughout the body? To show that an impression on one part may influence a distant part, I will give a few illustrations.

"Some years ago I had a patient—a girl twelve years of age—with a non-specific ulceration of the mucous membrane of the nose. I gave tonics, alteratives, procured change of air, and used various local applications, but all to no good purpose. At last, after two months' trial, my patient, to my confusion, was taken to an oilmonger who is an amateur doctor, and who immediately put a seton in the arm, with the result of effecting an almost immediate cure.

"Again, look at the effect of plunging the hand suddenly into cold water in arresting epistaxis. Or at the fact of a draught of cold air blowing—we will say on the leg—producing immediate sneezing. Or at the circumstance that putting the feet into mustard-and-water will sometimes so act on the nerves and bloodvessels of the uterus as to produce a delayed catamenia. Or who has not seen a mustard poultice or a blister on the chest give immediate relief, in bronchitis, from pain, dyspnoea, and difficulty of expectoration? Do we not know, also, that a diarrhoea will cure gonorrhoea, and an attack of piles the headache or the gout? Yet in all these instances there is no *direct* nerve connexion. In all these cases a certain impression must have been con-

veyed to the nerve centres, with the result of an altered discharge of nerve force, or a change in chemical action.

"I suppose I must not instance the revulsive effect of an emetic in stopping an ague or a fever, as vomiting is such a tremendous combination of actions. As to setons, I am quite certain, notwithstanding the inoculation-of-pus theory, that they are too much neglected. In head affections especially, as chronic meningitis, and in various other diseases, I am satisfied they are capable of effecting great benefit.

"How, in a given case, counter-irritation may do good I will not attempt dogmatically to affirm. It may be, as has been suggested, by stimulating the nerves, the capillaries, or the absorbents; or it may be by revulsion; or, as in the case of ulceration of the nose already spoken of, by producing such an impression in some way on nutrition as to break by a wrench the continuity of a morbid functional action, whether nervous, vascular, or chemical. To illustrate this, let us take the case of a chronically inflamed part with its enlarged and weakened capillaries, and which if connected with a gland would cause it to constantly pour out a half-elaborated secretion, and continuing from continuity or habit. Put a blister or other irritant on any part of the body—but if on a part supplied by the same group of nerves as the part affected, perhaps so much the better—an impulse will be conveyed to the spinal cord or sympathetic ganglia which will be reflected on the diseased part, and the bad habit will be broken. I say this may be so; for do we not know what a trifle will change or divert the operation of nervous action in the brain, the heart, or other organs? How suddenly a thought, a habit, a rhythm, or a secretion may be altered by a new impression. If this be so, may we not argue, by analogy, that if a mental or other habit can be changed by an idea or a new impression—a change, as in fear, anger, or joy, influencing the whole body and its functions for good or for ill,—why may not an external impression on a spinal or sympathetic nerve influence the whole system also for good or for ill? In the one case nerve function is affected from within outwards, and in the other the reverse. Is not the body a great whole, and are not its functions and sympathies closely bound together? Where does consciousness cease? A mental habit may be changed by a new impression, and why may not a habit of organic life be changed also by some other impression? That organic functions can be made to feel the force of habit we know by numerous examples, but most prominently so by the stomach. A diseased action once set up may continue from habit, just as a clock may still go even though in wrong beat; yet a very slight alteration will set all right. So, it appears to me, it is quite possible a blister, a seton, a croton liniment, or a mustard poultice, besides its more subtle action on the nerves, the capillaries, the absorbents, or the chemistry of nutrition, separately or collectively, may have a sudden effect on the whole body in altering function, as hot brandy-and-water may cure a headache or a colic by its impulsion, or as a sudden blow on the back may violently break the most subtle mental operations. In the one case *involuntary*, and in the other *voluntary*, attention is arrested by the stimulus from what had previously occupied it, and force is directed into a new channel, or equalized."

ART. 5.—*Cases of Cholera successfully Treated by Saline Injection into the Veins, and Autopsies of Cases unsuccessfully Treated.*

By L. S. LITTLE, F.R.C.S.

(*London Hospital Reports*, vol. iv., and *British and Foreign Medico-Chir. Review*, July.)

This paper is a continuation of one already published on the same subject in a former volume of the Reports. In two cases recovery took place under most unfavourable circumstances, one patient being a pregnant woman, and in her case the symptoms were complicated with pyæmia and the occurrence of premature labour. Even in the fatal cases the post-mortem examinations showed that the saline injection caused the patients to pass into reaction and restored the circulation, the lungs being found not collapsed, both sides of the heart containing blood, and bile being present in the upper part of the intestines.

ART. 6.—*Cylindrotæmium, a new Vegetable Growth found in Choleraic Dejections.*

By M. O. W. THOMÉ.

(*Virchow's Archiv*, 1867 ; *Gazette Médicale de Paris*, March 13th, 1869.)

M. Thomé says that on examining microscopically the rice-water evacuations of cholera, we find, amongst other things, a hyaline mucus, enclosing small corpuscles, refracting strongly, $\cdot 002$ mm. in diameter; at other times we find cellular organisms in a more or less advanced state of destruction. The rice-water fluids vomited by a choleraic patient, contained strongly refractive corpuscles, $\cdot 008$ mm. in diameter, closely resembling in appearance globules of fat, but distinguishable from them by their insolubility in ether, and by their behaving like solid bodies under compression. No protein compound can be detected in their composition by any reagent. They possess a distinct membranous envelope, demonstrable by acids, the episporium, containing a mass of granular protoplasm, which, on the addition of concentrated acids, divides into spores, in every respect resembling the refracting corpuscles found in the rice-water stools. The changes which these corpuscles of $\cdot 008$ mm. undergo, are, first, the loss of refractiveness; at the same time they soften, and the episporium dissolves into an amorphous hyaline mucus. At this moment, if we examine two corpuscles which come in contact, we see that a soldering (copulation) takes place between the two corpuscles at the point of contact; and they may then be followed in different transformations from the condition where several corpuscles in a state of copulation are still recognisable and distinct, to that in which the mucous transformation of the episporium is accomplished, and a complete soldering is produced. Soon the small spores found in the corpuscles, and larger than $\cdot 001$ mm. in size, cross the enveloping mucus, and become free (*spores mobiles*, *Schwarmer*). They

move in a manner which it is impossible to confound with molecular movements. Thomé has studied the influence of these spores on epithelium by placing them in saliva containing epithelium cells. At the end of some hours the spores lose their movements, and attach themselves to an epithelial cell which undergoes a kind of contraction. By cultivating with cholera stools and glycerine, syrup, white of egg, &c., Thomé has obtained a fungus which approaches in form the oïdium and cylindrium, but which he believes to be a new species, and describes under the name of cylindrotænium. From his researches, Thomé draws the following practical conclusions:—Boiling is the best means to destroy the parasite fungus in choleraic dejections. We know no agent which can destroy the parasite when it is in the interior of the organism. There is nothing to be done but to evacuate it by the ordinary means (emetics and purgatives). Opium is especially contra-indicated.

ART. 7.—*Treatment of Fevers.*

FRENCH MEDICAL PRACTICE.

(*British Medical Journal*, October 22.)

During the thirty years which have elapsed since the Paris correspondent of the *British Medical Journal* first began his acquaintance with French medical practice, an extraordinary change, he writes, has taken place for the better in the Parisian treatment of fevers. Bleeding, purging, and starving the patients to death, have given place to sustaining them with wine, meat-broth, and as much farinaceous and other food as they can benefit by, so as to keep them alive whilst the malady runs its inevitable course. Trousseau was the chief apostle of this modern and better system, which is now, with a few exceptions, generally adopted by all the hospital physicians of Paris. In pulmonic inflammatory complications, antimonials and depletion are more freely resorted to than is now usual in English practice; but, when blood is taken under any circumstances in cases of typhoid fever, whether by venesection, leeching, or cupping, it is with considerable caution. In the severe bronchitis and pneumonia of typhoid fever, the late Dr. Trousseau was in the habit of relying a good deal upon counter-irritation by the tincture of iodine; Dr. Peter follows the same practice. It is preferable to blistering in most cases, because the irritation produced is more easily regulated, and the risk of producing a gangrenous sore is obviated. Dr. Peter employs a very efficacious and little known method of subduing the tympanitic distension of the abdomen, so often an urgent symptom in typhoid fever; viz., the use of what may be called *ice-poultices*. Small fragments of ice are scattered over a thick layer of dry linseed-meal: in this way a poultice is formed, which, in consequence of the slow melting of the ice, is kept at the temperature of melting ice. To Professor Monneret belongs the credit of conceiving, and introducing to the profession, this very valuable method of treating tympanites.

ART. 8.—*Treatment of Rheumatic Fever by Perchloride of Iron.**

By J. RUSSELL REYNOLDS, M.D., F.R.S.

(*British Medical Journal*, August 28.)

The marked effects of tincture of perchloride of iron in such diseases as erysipelas and diphtheroid sore throat has induced Dr. Reynolds to try it in acute rheumatism—which agreed with the others in coming under the class of “spreading inflammatory affections.” He had given it in eight cases, with such success as would justify a further trial. Having given brief histories of the eight cases, he directed attention to certain points. 1. The relief of the joint affections was definite, uniform, and speedy. In four cases it was removed in one day; and the longest period of suffering after the commencement of the treatment was five days. 2. Excluding one fatal case with cerebral symptoms, and another where there was intercurrent pneumonia, the temperature became normal between the second and the seventh days; the mean duration of pyrexia being a little less than five days and a half. 3. Excluding again the two exceptional cases already mentioned, the total duration of rheumatic fever from the outset varied from seven to fifteen days, giving a mean of ten and a half days. 4. The earlier the iron was given, the shorter was the duration of the disease. No headache or other symptom of discomfort was produced by the iron.

ART. 9.—*Relapsing or Famine Fever.*

(*British Medical Journal*, October 23.)

The two following cases are fairly-marked specimens of relapsing or famine fever, which now threatens to become epidemic, and which, until last year, had not been seen since 1855 in this country. In cases of relapsing fever, there is sudden invasion, the symptoms usually observed being shivering; rapid, full, and bounding pulse; high temperature; sickness; enlarged and painful liver and spleen; with, sometimes, jaundice, severe headache, and occasionally acute delirium, terminating with copious diaphoresis. There is no eruption. The patient remains well from this time, when a relapse takes place about the fourteenth day from the commencement, with a repetition of the symptoms, but terminating about the third day of the relapse. The disease must be treated on rational principles, no remedy appearing to have any specific effect. The mortality is small—from 2 to 5 per cent. The post-mortem changes observed are usually enlargement of the liver and spleen. It has been remarked that, when typhus fever is also prevailing, the proportion of relapsing fever has been greater at the commencement of the epidemic, and that typhus fever takes its place towards its close. For further particulars of the disease, we would refer our readers to Dr. Murchison's

* Abstract of a Paper read at the 37th Annual Meeting of the British Medical Association, in Leeds, July, 1869.

standard *Treatise on the Continued Fevers of Great Britain*, and Dr. Hudson's admirable *Lectures on the Study of Fever*.

We are indebted to Dr. George Simpson, Resident Physician's Assistant, for the following notes.

CASE OF RELAPSING FEVER.

(Under the care of Dr. ROBERT LIVEING.)

Robert Wait, aged thirteen, residing at Crown-street, Soho, was admitted into the Middlesex Hospital, on August 25th, under the care of Dr. Liveing. The patient said that he had been ill for six days previously, with pain in the head, back, and limbs. There had been no diarrhœa. He was much emaciated, and in a weak state. He stated that he had left for the sea, and had walked from London to Yarmouth on foot, with scarcely any money, and endured a great many privations on the way. Having got on board a ship, he there met a German sailor who was ill with what the rest called fever. He returned with his ship to London, getting very little food, and that little bad. A few days after his arrival, he fell ill, and on the sixth day was admitted into the Middlesex Hospital. There was not much heat of skin; no eruption, nor diarrhœa. On the 26th (seventh day), the bowels were not moved. From the 27th up till the evening of September 3rd (the fifteenth day), he felt quite well; but on the latter day he relapsed. Sickness came on. There was no tenderness of abdomen; it was not retracted. No enlargement of the spleen could be discovered. On the 5th he complained of great pain over the liver and spleen, chiefly over the latter. Vomiting still continued. On the 6th, he felt much better; the vomiting ceased; the splenic dulness decreased; and there was no tenderness. The patient continued well, with no further relapse, and was discharged.

The treatment consisted of a saline mixture during the first attack; in the interval, of quinine and iron; and during the relapse, of citrate of potash in an effervescing form. Brandy was also administered occasionally.

Date.	Day of Fever.	Pulse.	Temp.
Aug. 25 . .	6th	76	95·1
„ 26 . . .	7th	76	97·3
„ 27 . . .	8th	70	97·4
Sept. 3 . .	15th, 9 P.M. . . .	100	102·4
„ 4 . . .	16th, 9 A.M. . . .	112	103·4
	9 P.M.	112	102·2
„ 5 . . .	17th, 9 A.M. . . .	102	102·4
	9 P.M.	116	103
„ 6 . . .	18th, 9 A.M. . . .	68	97·3
	9 P.M.	70	97·2

CASE OF RELAPSING FEVER.

(Under the care of Dr. GOODFELLOW.)

Robert Wait, tailor, aged forty, residing in Crown-street, Soho, was admitted into the Middlesex Hospital on Saturday, Sept. 15th, under the care of Dr. Goodfellow. The patient said that he was *suddenly* seized on the previous Tuesday, the 14th, with pain in the head, legs,

and back, with general uneasiness, and tenderness over the regions of the liver and spleen. There was no diarrhœa, but bilious vomiting; no delirium. He had been living in a poor manner lately, owing to want of work. He had come to the hospital to see his son, who was a patient suffering from relapsing fever, and whose case we have just given. When admitted, the tongue was furred; pulse 110, jerking, and compressible; temperature 102° ; no eruption; slight tenderness over the liver and spleen. The boundaries of the latter could not be precisely defined, but it appeared enlarged. There was no jaundice. He was bathed in a profuse perspiration. He was ordered a saline mixture and pill of aloes and hyoscyamus, as his bowels had not been moved for a day or two. On the 19th (sixth day), the pain in the abdomen had entirely left. On the 20th (seventh day), he felt quite well. He was ordered gentian and quinine. From the 20th up to the 26th, the patient continued well, and his appetite was improved. But on the 26th (thirteenth day), about 4 A.M., he awoke with headache and loss of appetite. There was no chilliness, however. The tongue was white and moist. The bowels were moved three or four times yesterday with a pill, but not since. The tenderness in the abdomen returned. From the 27th up till Oct. 1st, the symptoms declined; and on the 2nd he declared he felt as well as ever.

Date.	Day of Fever.	Pulse.	Temp.
Sept. 18 . . .	5th	110 . . .	102
„ 19 . . .	6th	68 . . .	97·4
„ 20 . . .	7th	62 . . .	97·5
„ 21 to 26 .	8th, 9th, 10th, 11th, and 12th . . .	72 . . .	97
„ 26 . . .	13th, 9 A.M. . . .	92 . . .	102·2
	9 P.M.	100 . . .	102·4
„ 27 . . .	14th, 9 A.M. . . .	96 . . .	100·4
	9 P.M.	106 . . .	100·4
„ 28 . . .	15th, 9 A.M. . . .	100 . . .	100
	9 P.M.	114 . . .	101·7
„ 29 . . .	16th, 9 A.M. . . .	108 . . .	99
	9 P.M.	76 . . .	97·3
„ 30 . . .	17th, 9 A.M. . . .	80 . . .	97·2

ART. 10.—*The Treatment of Acute Gout.*

(Hospital Practice.)

(*The Lancet*, September 25.)

We subjoin a note of the treatment of acute gout as followed by physicians at some of the metropolitan hospitals. It is especially as regards the use of colchicum—a most ancient remedy for gout—that we have thought it interesting and important to glean these particulars. The special power of this drug in controlling the inflammatory phenomena of the disease is generally recognised, but its *modus operandi* cannot be explained. The researches of Garrod go to show that colchicum does not increase the amount of uric acid excreted by the kidneys, nor does

it in all cases increase the quantity of urine. Yet the relief obtained by the use of this drug is in the experience of most practising members of the profession.

St. George's Hospital.—For the purposes of clinical instruction, Dr. Fuller divides cases of acute gout into two classes; namely, (1) cases in which the excretory organs are organically sound and functionally active—cases in which the attack of gout is due principally to excess and indiscretions of diet; and (2) cases in which the excretory organs are in some way disordered, and fail in performing their eliminative functions—cases in which the patient is not necessarily guilty of indiscretions of diet, but in which the liver and kidneys fail in their action, either as the result of functional disorder or of organic change in their structure.

The first class of cases correspond with those which pass under the name of sthenic gout: the tongue is usually furred, the urine loaded, and the bowels are commonly torpid. In these cases, until the acute symptoms have subsided, Dr. Fuller restricts the diet to liquids, administers a saline draught containing sulphate and carbonate of magnesia and a few drops of colchicum wine, occasionally gives an aperient pill containing calomel, aconite, and opium, and wraps the joints in finely carded wool or in flannels steeped in a solution of soda and laudanum. As the acute symptoms subside, a more generous diet is permitted, and some light bitter tonic, such as tincture of gentian or calumba, is added to the mixture.

The second class of cases have more affinity with what has been termed atonic gout: the tongue is often clean, the urine clear—sometimes of low specific gravity—and the bowels are regular. In these cases Dr. Fuller does not restrict the diet to the same degree; he allows a little meat without vegetables, and also, if desired, a glass of sherry or a little spirits and water. He acts freely on the skin by means of the hot-air bath; administers an aperient in the morning containing taraxacum and sulphate of magnesia, and during the day he gives a warm stomachic draught containing ammonia, and a few grains of soda in a light bitter infusion. Occasionally a dinner pill is prescribed containing rhubarb and a grain of colchicum; and in some instances, characterized by pale clear urine, a draught containing quinine, the mineral acids, and taraxacum, is substituted for the mixture just referred to. In these cases, as soon as the acute symptoms have subsided, a drachm of the syrup of phosphate of iron is given each morning before breakfast.

Middlesex Hospital.—In the treatment of acute gout, Dr. Murchison commences by clearing out the bowels with colocynth, blue-pill, and henbane, and then he relies mainly on alkalies and colchicum, the bicarbonate of potash and colchicum wine. With these he usually combines the nitrate of potash, and in private practice the patient is also instructed to drink lithia water. In rare cases where there is irritability of the stomach, it may be necessary to subdue this by bismuth, magnesia, lime-water, and ice, with sinapisms to the epigastrium, before giving colchicum. The inflamed joints are covered with pledgets of lint moistened with laudanum, or with belladonna liniment and oil-silk, and the whole enveloped in cotton-wool. Opiates are not given, except

in rare cases where the pain is protracted and severe, and not even then unless the bowels be well open, and the urine free from albumen. The patient's diet is restricted for the most part to milk and farinaceous articles.

Westminster Hospital.—Dr. Radcliffe thinks that, during the last twenty years, there has been a great change in the character of the cases of gout which fall under the physician's notice. The acute gout of old, he believes, is now rarely met with. It is much more common to meet with the subacute form—the form, that is, which is more nearly allied to rheumatic gout. Dr. Radcliffe does not employ colchicum. In a case of gout where some part of the foot is involved, he raises the limb to a height above that of the pelvis, gives diluents, iodide of potassium, alkalies, and no colchicum. Nor does he give purgatives. He diminishes the allowance of port wine and beer.

Charing Cross Hospital.—Dr. Salter's treatment of cases of acute gout does not differ, in any essential particulars, from the general management of such cases; and the results are such as, in his opinion, to entitle the treatment to be considered successful. It consists of the administration of certain remedies, the prescription of certain dietetic and other management, and the application to the part affected of a certain local treatment. What he generally orders is a mixture containing iodide of potassium, bicarbonate of potash, colchicum wine, and decoction of bark. He regards as groundless, in the great majority of cases, the fears that are so often expressed, of the peculiarly lowering tendency of colchicum; at the same time recognising the fact that cases are sometimes met with which appear to be almost absolutely intolerant of it, and others that bear it very ill. He thinks that it should always be commenced very cautiously and tentatively with those who have never taken it before. He is equally incredulous of the opinion that has been expressed by Dr. Todd and others, that colchicum tends to render gout more inveterate and more apt to recur.

Dr. Salter thinks it very important, unless the case is trifling, that the patient should be kept in bed, for the sake of the perfect physical rest, for suspending all wear and tear, and for getting some sleep by day in case the rest is much disturbed at night. He prescribes a light and simple diet—farinaceous foods made with milk, beef-tea, and fish. He does not by any means consider stimulant a *sine quâ non*: he very often gives none at all; and in cases where the patient's condition absolutely requires it, he prefers claret, or claret and potass-water, to anything else. Unless the pain is very severe and distressing by day, he does not give any sedative except at night, when he gives a sufficiently large dose to command sleep, whatever that dose may be.

Dr. Salter's local treatment—and this is the only thing that is at all peculiar—consists in the application to the affected part of a lotion consisting of a drachm of iodide of potassium, an ounce of bicarbonate of potash, and a pint of boiling water; to this he thinks a little opium may be advantageously added. Doubled lint saturated with this lotion is applied to the part affected, and covered with oil-silk; to that is put a layer of cotton-wool, and the whole swathed in a flannel bandage. The lint should be taken off from time to time, and re-dipped in the lotion. The relief that patients experience from this application is very great.

With or without this lotion, there are three other things on which Dr. Salter insists in the local treatment of a gouty joint—perfect physical rest, protection, and preventing the part affected being too dependent.

ART. 11.—*On the Treatment of Scurvy by the Binoxalate of Potash.*

Communicated by W. H. TAYLOR, M.D., from Observations made in the Arctic Regions by J. W. TAYLOR, F.R.G.S., F.G.S.

(*The Lancet*, June 5.)

The following are the conclusions at which Dr. Taylor has arrived:—

1st. That scurvy arises in a great measure from a deficiency of albumen in the blood.

2nd. That the diet of sailors and persons who suffer from scurvy contains little albumen, or albumen difficult to be dissolved and taken up.

3rd. To prevent scurvy we must give some easily-digestible albuminized food.

4th. All or most of the albuminized food taken must be made use of, which at present, in salt beef as supplied to merchant ships, which has been, perhaps, several voyages, and repickled over and over again, cannot be without the aid of some solvent.

5th. As an additional albuminized food, Dr. Taylor would, till improved preserved fresh meat be introduced, give occasionally each sailor a certain quantity of the uncooked white of egg,* which, by the addition of a very small portion of salt, and put into bottles or kegs, can be kept good for a length of time.

6th. As a solvent Dr. Taylor would give the binoxalate of potash, which would add to the power of the gastric juice, and dissolve out more of the albumen from the salt provisions.

ART. 12.—*Cases of Septicæmia.*

Under the care of Dr. DUFFIN, of King's College Hospital.

(*The Lancet*, September 18.)

The following cases are intended as illustrations of that obscure but formidable condition which is still usually designated in our class-books under the indefinite heading of Septicæmia. Whilst differing *toto cælo* in almost every symptom, they will at least be recognised as belonging to the same class of disease. The curious pathological resemblance presented

* Mr. J. W. Taylor found that, after eating eggs for a short time, the pliable nails were soon restored to their natural tone, and other symptoms improved.

by the one to the stage of collapse in cholera, and by the other to the earlier days of typhoid fever, cannot fail to attract attention.

On the 11th December, 1868, a stout woman, twenty-two years of age, entered King's College Hospital, complaining of difficulty of breathing. She dated her illness back for about a week, previous to which time her wind had always been excellent. She also said that during the week she had had several fits of unconsciousness. When admitted, her hands were found to exhibit a deep cyanotic tint, her face and lips were blue and congested, and she was intensely cold, the thermometer indicating 96° F. A small quantity of blood was noticed about her gums. No pulse could be detected in any branch from the axillary artery downwards in either arm. From the common femoral downwards, also, all trace of arterial pulsation had ceased; and only a feeble impulse could be obtained in the carotids. The heart's sounds were in every respect normal, the impulse was firm, and the rhythm preserved; the number of beats was about 90. Even at the clavicles the first cardiac sound could be distinctly heard. The breathing over the whole of both lungs was so intense as to amount to puerility. No dulness existed anywhere. She had not passed urine since the morning, and the bladder was empty; but she said that up to the previous night the amount of secretion had been satisfactory. Her intelligence was perfectly lucid; but while her chest was being examined, three hours subsequently, she suddenly fell into a distinct epileptic fit. This was followed by severe coma, but after an hour her intelligence returned. After another half-hour, however, a second epileptic attack supervened, and she fell into a state of coma, out of which she never rallied, dying five hours after admission.

On post-mortem examination, the blood was found universally fluid. There was no embolism of either artery or vein. Hundreds of minute hæmorrhages, varying in size from a pin's-head to a marble, were scattered over the various serous surfaces—the lungs, mediastinum, substance of the heart, roots of great vessels, &c. The endocardium was much stained, but the valves of the heart were healthy. No inflammatory product was found anywhere. The lungs had collapsed well, their weight being rather below the average. The kidneys were fatty. The bladder contained some urine with a sixth of albumen, and some fatty and waxy casts, but no epithelium or blood.

R. C—, aged twenty-four years, a general servant, began early in May, 1869, to suffer from pain and stiffness in the ankles and wrists. These at the end of a fortnight compelled her to take to her bed. A general sense of prostration and languor now came on, associated with slight rigors and occasional epistaxis. The temperature ran up to about 101° F., the pulse quickened to between 90 and 100, and she was troubled with a good deal of nausea, and almost daily vomiting. There was a total absence of typhoid spots, as well as of diarrhœa, and abdominal tenderness. Her nights' rest became very indifferent; but this was the only sign that gave rise to any anxiety. Thus she continued for three other weeks. During this time a peculiar flush developed on the face, of a full rose colour, very irregular in shape, but symmetrical, and at first only present on excitement. After a few days this became permanent, the colour deepened, and, without the original shape of the flush

being in the least changed, it was evident that slight infiltration of the cutis existed over the spot. The cuticle, at first healthy, then scaled slightly over the more central part of this rash. When this efflorescence had existed about ten days, it was found that the redness was becoming dusky, and did not change on pressure. A few distinct circular islets of the same character had also formed about the circumference of the great central patch. Under these circumstances she was admitted into the above hospital.

June 8th.—Except this peculiar rash on the face, a little redness of the fauces, and a foul tongue, she seemed in perfect health. Nevertheless, the insomnia, which had scarcely allowed her an average of two hours' sleep each night for fully three weeks, and the dusky petechial of the rash of the face, suggested anxiety. It was soon observed that her diurnal temperatures presented the most irregular variations, anywhere between 97° and 103° . A fresh burst of rash was observed on the left side of the chest, almost identical with that on the face, but occupying small distinct centres varying from the size of a pin's-head to a shilling. All these were from the first distinctly hæmorrhagic. Still, all the general functions were performed normally. Menstruation set in on the 11th, and soon amounted to a painless hæmorrhage. Thus she continued till the night of the 15th, when, after a transient rigor, her temperature rapidly shot up to over 105° , her pulse mounted to 130, and she had severe vomiting.

The next day her countenance was indicative of extreme anxiety. Her tongue had become dry and tremulous; it required an effort for her to protrude it. She had almost universal muscular quivering. Extensive loose râles and rhonchi were audible over the whole chest, and the crepitus at the left base was almost fine enough for a pneumonia. The urine for the first time was found to contain a trace of albumen. The intelligence remained perfect.

Two days later, on the 17th, all these signs continuing, loose râles became audible all over the chest, and there was distinct dulness at the base of the left lung. The daily variations of temperature exceeded four degrees, the evening limit always reaching 105° . General hyperæsthesia had come on, and there was a little nocturnal delirium. The number of the petechiæ had increased. The urine flow continued. The following day she sank into coma-vigil, and died on the fifth day from the rigor.

Post-mortem examination.—In each pleural cavity there was a small quantity of serous pus, about two-thirds of a pint in the left pleura, and half that quantity in the right one. Some greenish, sticky, friable lymph was also developed at the base of either pleura. In the centre of the lower lobe of the left lung a small patch of pneumonic consolidation existed, and the rest of that lobe was carnified and tough. The lungs otherwise were extensively œdematous. The endocardium was much stained, the muscles generally very dark, and the blood universally fluid. The total absence of any trace of internal hæmorrhage, either in the interior of the organs, or on serous surfaces, gave rise to considerable astonishment. Peyer's patches were found in a normal condition, the spleen small, and all the other organs perfectly sound.

ART. 13.—*On Typhus Exanthematicus.*

By Dr. JULIUS THEURKAUF, of Lehre, in Brunswick.

(*Virchow's Archiv*, April and June; and *Edinburgh Medical Journal*, December, 1868.)

After an elaborate paper, the author gives the following *résumé* of his results:—

1. The occurrence of spotted typhus is favoured by overcrowding, bad ventilation, insufficient, and particularly vegetable food, and mental depression.

2. It is propagated by contagion, mediate or immediate.

3. One attack diminishes, but does not destroy, liability to another.

4. The period of incubation is usually from fourteen to nineteen, never less than eight days.

5. The period of desquamation is favourable to contagion.

6. It affects more men than women, and most frequently people in the prime of life.

7. The contagiousness diminishes the more the disease is propagated from one to another.

8. It lasts from eleven to seventeen days; if the illness is prolonged, it is from the occurrence of complications.

9. The cutaneous symptoms are especially characteristic by the measly rash, which appears on the third or fourth day, and disappears five or six days afterward; it affects the trunk and extremities.

10. The petechiæ are not constant, merely complications. They arise mostly independently of the measly spots, but may originate with them.

11. Miliary eruption is much rarer than in typhoid, and was never observed along with petechiæ.

12. In the third week furfuraceous desquamation of the skin occurs, and afterward the hairs fall off.

13. The nervous symptoms are irritation during the period from the commencement of the fever till the rash is disappearing, thereafter depression until convalescence is established.

14. The temperature in the earliest days reaches 31.5° to 32° R., and increases to 32.5° to 33° at the perfect formation of the rash, without marked remission. During the continuance of the rash that temperature is kept up, but in the mornings there may be remissions to the extent of $\frac{1}{2}^{\circ}$ or 1° . As the rash disappears the temperature falls, and the morning depression is more distinct. During convalescence it may fall below the normal standard.

15. The frequency of the pulse and the respiration is not uniformly related to the temperature, and can only be used with caution in judging of the fever.

16. The quality of the pulse is also various, and may be materially modified by the strength of the patient. It is generally full, weak, and compressible. The dichrotism, though rarer than in typhoid fever, is met with during the stage of the eruption. It results from a momentary interruption of the contraction of the heart, which in rare cases produces a double systole.

17. The urine, usually red and turbid, is, up to the fading of the rash,

constantly diminished and of high sp. gr. (1020 to 1028); from that time to the end of the disease the quantity increases, and it becomes less dense. During convalescence it may fall to 1006 to 1012. There is rarely any sediment. It speedily becomes alkaline, especially in the nervous stage.

18. Catarrhal inflammation of the conjunctiva, the mucous membrane of the nose, the throat, and the bronchi, is constantly present, and most marked during the existence of the rash.

19. The tongue resembles that of typhoid.

20. Constipation is common; diarrhœa is an occasional complication.

21. Bleeding from the nose and gums is common.

22. Enlargement of the spleen appears before the eruption is most marked, at the beginning of the second week (four times the natural size), but the organ is, at the end of the disease, of normal size.

23. Death occurs usually at the climax of the disease from the severity of the malady, or in the third or fourth week from complications.

24. The anatomical changes, corresponding to those of typhoid, excepting in the intestinal lesion, are, fluid oily appearance of the blood, congestion of the brain and its membranes, softness and brownish colour of the muscles, bronchial catarrh, congestion of the liver, normal bile, enlargement of the spleen.

25. The diseases which the exanthematic typhus follows are, typhoid fever, small-pox, chronic dysentery, and pneumonia.

26. The diseases with which the exanthematic typhus was associated were, syphilis, epilepsy, jaundice from calculus, tuberculosis, and emphysema.

27. The chief complications are, angina crouposa, catarrh of the intestine, inflammations and ulcerations of the larynx, bronchitis, lobular and lobar pneumonia, parotitis, herpes, and decubitus gangrenosus.

28. The prognosis is rendered unfavourable when unhealthy individuals are attacked, or by the occurrence of high fever, nervous symptoms, numerous petechiæ, hæmorrhages, rapid alkalescence of the urine, and important complications.

29. Good ventilation is most important.

30. Treatment must be expectant symptomatic.

31. Emetics and calomel in heroic doses neither cut short nor alleviate the disease.

32. Warm baths, calomel, and opiates in small doses, are useful as relieving symptoms.

ART. 14.—*On Scarlatina.*

By WALTER FERGUS, M.D.

(*The Lancet*, November 20.)

The chief point in the treatment of scarlatina is, not to be overmuch afraid of your enemy, and to put a *quasi* faith in the issue of the battle being on the side of recovery. Medicines easily become poisons in this disease; a smart purge or a repeated emetic not unfrequently changes a moderate and regular attack into one of peril, increasing the danger of

all the symptoms. Next to a good supply of air and a comfortable bed, *quietness* is of the utmost consequence; a fussy nurse or over-anxious parents turn the scale against a patient with unerring certainty. Everything about a sufferer from scarlatina should be as quiet and as cheerful as it is possible to make it. An emetic of sulphate of zinc and ipecacuanha wine, in the *earliest* stage of the disease, is of use, helping as it generally does reaction; but it should not be repeated with a view of cutting short a disease which *will* run its course. If the patient can be kept alive for from seven to nine days, he will most probably make a good recovery. After the emetic, the patient should be allowed to sleep as much as possible; the more he sleeps on the first two or three days of the attack the better in all probability will be the result. At the end of that time, in most cases, all sense of depression or oppression will have passed away, and, quietness being maintained, an uninterrupted recovery ensues. Two remedies have proved almost equally useful: chlorine gas in a sweetened solution is most grateful to the patient, and evidently helps him in his battle; but a better medicine is the liquor of acetate of ammonia with a considerable excess of carbonate of ammonia, with ten minims of spirit of nitric ether in each dose. It should be given in doses repeated with greater frequency in severe cases. Gargles are useful in cooling and relieving the throat: a weak solution of chlorine gas sweetened, or of Condyl's fluid, answers well as a gargle. It is a good practice to make a patient gargle before taking food or medicine. Nitrate of silver or strong hydrochloric acid must be used if there is much blocking up of the fauces, or grey patches on their surface. Ice is of immense use where there is either great throat affection or sickness. The pleasantest drink is soda water given freely, with wine added where wine is required.

The disease seems to produce a stretching or distension of every soft fibre and structure of the body. All treatment should be directed to the restoration of tone to the distended and weakened structures; with this view iron and quinine may be given early in the attack. From the fifth or sixth day six grains of the sulphate of iron, magnesia, and quinine* should be given *with* the ammonia draught. This mixture may be continued till convalescence is complete. Towards the end, in many cases, the sulphate of iron, magnesia, and quinine may be given alone in from fifteen to twenty grain doses. In this form iron and quinine rarely disagree with a patient, and aperients are seldom required during its use. The external treatment is of great importance; rapid sponging with vinegar and water is called for if the patient does not sleep, or if there is much irritation of the skin. In cases with extreme development of the rash and burning skin, the cold douche, rapidly given, acts like a charm. The patient, placed in a sponging-bath close to the bed, has four to five washhand basins of cold water poured in quick succession over him, is quickly rubbed dry, and put to bed, when, if the treatment has done good, he drops off to sleep almost at once.

* The magnes. ferri et quinæ sulph., as sold, contains, in twenty grains, one grain of sulphate of quina, three grains of sulphate of iron, and sixteen grains of sulphate of magnesia. In the form of powder it keeps well for a long time, without oxidation of the iron.

Warm baths early in ordinary cases do harm, nor should they be used until a certain amount of restoration of tone has taken place. Anointing with fatty substances early in the disease is not likely to benefit the patient; it may arrest to a certain extent the diffusion of the separated cuticle. Scrubbing a patient with carbolic soap in a bath ought to be postponed till a very late period of the disease. Before the restorative stage is reached, every exertion on the part of the patient should be avoided. Close stools near to the bed should be provided, and kept always charged with a disinfectant. If a warm bath is given, it should be brought close to the bed, and the patient ought not for any purpose to leave his bedroom till he has recovered his strength and appetite.

In none of the cases treated on the plan indicated has there been a disposition to the formidable sequelæ of scarlatina. In many of the cases albumen appeared in small quantity from the fourth to the sixth day, uniformly disappearing in from three to four days. Albuminuria was more frequent in the cases treated with chlorine gas, which was on that account finally abandoned for the ammonia and tonic treatment.

A well-regulated and sufficient diet, with a change of air, as soon as a removal is prudent, completes the recovery. Occupation, especially mental occupation, must be cautiously resumed. The brain, as much as any other organ, suffers from the stretching process of scarlatina. Early in the disease, books, conversation, light, and loud noises should be avoided. Long after recovery the brain frequently shows signs of slow restoration of power.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 15.—*The Physiology and Pathology of the Cerebellum.*

By WILLIAM A. HAMMOND, M.D.

The number for April last of *The Quarterly Journal of Psychological Science*, contains a highly interesting paper on this subject by the editor, Dr. Wm. A. Hammond, which was read before the New York County Medical Society, Jan. 4, 1869. He reviews somewhat at length two of the more commonly received hypotheses which have been advanced relative to the functions of the cerebellum.

First, that it is the originator and controller of the sexual appetite—an hypothesis promulgated by Gall. Dr. H. concludes that “the fact may be regarded as unquestionable, that lesions of the cerebellum do occasionally give rise to abnormal sexual manifestations, either of increase or diminution. * * * * Observation, however, shows us that, as in the lower animals, other parts of the cerebro-spinal axis participate in this connection, and that the integrity of the cerebellum is not at all essential to the existence of strong venereal propensities.”

Second, that it co-ordinates the various muscular actions of the body—an hypothesis which originated with Flourens. “The arguments which may be brought against it are, however,” the author states, “so forcible, and experiments performed upon animals of different classes

are so strikingly against it, that I am forced to regard his doctrine as untenable."

In addition, the records of pathology furnish evidence which is absolutely fatal to its pretensions.

"1. The consequences of removal of the cerebellum, if the animal survives the immediate effects of the operation, are not enduring.

"2. The entire removal of the cerebellum from some animals does not apparently interfere in the slightest degree, even for a moment, with the regularity and order of their movements.

"3. The disorder of movements which results in birds and mammals immediately after injury of the cerebellum is not due to any loss of co-ordinating power, but is the result of vertigo.

"4. The phenomena of cerebellar disease or injury, as exhibited in man, are not such as show any derangement of the co-ordinating power.

"5. In those diseases, of which the chief phenomena relate to derangement of the co-ordinating power, the lesion is not in the cerebellum, and the symptoms are altogether different from those due to cerebellar disease or injury."

These several propositions are supported by arguments drawn from experimental physiology and pathology.

Dr. Hammond concludes that the cerebellum "has no special or exclusive function of any kind, but that it is simply an additional generator of nervous power, a ganglion to be added to the cerebrum, and performing analogous offices in the economy."

ART. 16.—*Report on the Treatment of Delirium Tremens in the Hospitals of Great Britain.*

(*British Medical Journal*, July 3.)

It is interesting to note in the following report, which gives a fair idea of the state of opinion in the profession on the subject, the great change which has taken place in the last few years in the treatment of delirium tremens. Instead of the heroic doses of opium, which were almost as a matter of course given in cases of this disease, opium is now used only by some physicians, and by them in comparatively small doses; the excessive treatment by alcohol has given way to more moderate measures, and now it is given up altogether, or stimulants are administered in much smaller quantities, while judicious nursing, except on rare occasions, has taken the place of the strait jacket. It is satisfactory to find that all are agreed as to the great importance of abundant nourishment of the best kind, and perfect rest.

Charing Cross Hospital.—Dr. Salter's treatment is sedative, pushed to extremity, aided by stimulants, and, above all things, *feeding*. The results which he has obtained have been uniformly such as, in his opinion, leave nothing to be desired.

Middlesex Hospital.—Dr. Goodfellow is not inclined, during the early part of the disease, to interfere greatly. His treatment is mainly expectant and dietetic, abundance of nourishing food being allowed. Should the urgent symptoms, however, continue, subcutaneous injections of

morphia, from a fourth of a grain upwards, according to circumstances, are given; and stimulants, spirits, or beer, as the case may be. The following mixture Dr. Goodfellow has found frequently of great service.

R Quinæ disulphatis gr. ij; chloroformi ℥xx; tincturæ cardamomi comp. ℥j. To be taken in water every four or six hours.

If there be much febrile disturbance, a grain of opium with a grain of calomel is prescribed.

Dr. Murchison advocates no special rule, his mode of treatment depending upon the individual character of the case. Generally speaking, however, he employs opium if there be no renal affection, but if this be present, he believes tincture of digitalis, in twenty or thirty minim doses, offers considerable advantages. He thinks stimulants in some cases useful, but he by no means employs them in all cases. Nourishing food and quiet are, however, invariably necessary.

St. Bartholomew's Hospital.—Dr. Farre always takes care to get the bowels open at first. He then gives opium; or, if the pupils have any disposition to contract, opium and antimony several times a day. If sleep be not induced by this means, he uses cold affusion to the head. Wine or beer is allowed, if the pulse be low, or the skin perspiring. He has given half-ounce doses of digitalis in several cases, without injury, but without marked benefit.

St. Thomas's Hospital.—Dr. Peacock has been lately employing bromide of ammonia in delirium tremens with very good results.

Westminster Hospital.—The plan of treatment which, as a rule, Dr. Fincham adopts, is as follows. He cuts off at once all alcoholic stimulants, and administers directly abundance of easily digested and nourishing food—*e. g.* three pints of strong beef-tea, and one of arrow-root and milk, given in divided quantities every two hours, as in a case of fever. If, by giving one or two pints of porter, he can get food taken more readily, Dr. Fincham allows that quantity. As soon as possible, he urges the patient to take solid food, in the shape of meat, given as regular meals, with porter; continuing, at the same time, beef-tea, etc., in less quantity. Dr. Fincham gives no opium. If, at the commencement of treatment, the patient appears much exhausted, he gives ammonia; but, as a rule, prefers to give, as medicine, hydrochloric acid in some bitter infusion, in order to increase the appetite and assist digestion. If the patient has been drinking hard up to the time of his coming under treatment, Dr. Fincham has found, on several occasions, great and rapid improvement take place after the action of a brisk purgative—*e. g.* calomel and colocynth, or a drop or two of croton-oil. This must, of course, be followed by the due administration of nutritious food, etc.—Dr. Basham thinks that the treatment of delirium tremens cannot easily be reduced to a plan, as each case must be regarded as a separate study. The effect of fermented stimulants on the nervous system, when acting as a poison, although manifesting for the most part a series of morbid phenomena common to all, nevertheless requires a marked modification of treatment in different individuals. Thus total absence of sleep, hallucinations more or less of one type, an excitable restless manner, complete loss of appetite or power to take or digest solid food, and very depraved

alvine excretions, are the common typical symptoms of that disorder of the nervous system known as delirium tremens. The great object of remedial treatment is to allay or calm the excitable but exhausted nerve-force. Sleep and rest are the points aimed at. But sleep will not follow the use of any one known agent. There are peculiarities, whether of the nervous system itself in each individual, or of the relation of the nerve-force to the other functions of the organism, which must ever shut out the idea of one remedy or one plan of treatment being entirely effective. It has ever appeared to Dr. Basham characteristic of a limited experience, to expect or to hold out the hope that any one special remedy will be universally applicable in this disease. Opium, digitalis, antimony, have their advocates; and, doubtless, occasional successful results follow their use in particular cases. Of these, opium perhaps has been most largely used—in many cases with great advantage. It often quickly procures sleep; and, with that result once obtained, the paroxysm may almost be pronounced to be at an end. But it is only in a certain class of cases that opium is thus immediately beneficial. Take a case of delirium tremens accompanied by a good deal of vascular meningeal excitement; hallucinations of the usual type; hideous images; mental aberration; irritable, excitable manner; nights without sleep; heat of scalp; suffused conjunctiva, and pupils contracted; a sharp, quick, hard pulse. Give such a patient opium, and it will either poison him or bring on a deep comatose condition of great hazard; or, if the quantity given does not act thus, it adds to the excitement, and aggravates the symptoms to a pitch little short of those of arachnitis. Now if, with proper discrimination, some ten, dozen, or eighteen leeches had been applied to the scalp, followed by a brisk calomel purge, and then a moderate dose of opium, a grain or twenty minims of Battley, probably a different and more favourable result will follow. The chief aim in the treatment of delirium tremens is to allay the present paroxysm and obtain sleep; and the best remedy to secure this can only be found by a careful estimate of the idiosyncrasies of the individual, and of the presence or absence of morbid complications in other organs or functions beyond those of the nervous system.

Netley Hospital.—The system on which Dr. Maclean goes in the treatment of delirium tremens is, first to secure perfect quiet and seclusion for the patient, placing him under the care of careful and trustworthy attendants, who are instructed to use every means to calm and reassure the sufferer. The dangerous practice of forcing sleep by opiates he never under any circumstances follows; nor does he allow the blood of a patient already poisoned by alcohol to be still further charged by the use of stimulants. Instead of this, he insists on the administration of strong beef-tea at short intervals, to which Cayenne pepper has been freely added. Without the addition of pepper, the stomach will rarely retain the nourishment. Food is absolutely necessary. A man who has been drinking to such an extent as to bring on this formidable affection, has, nine times out of ten, been eating little or nothing. Dr. Maclean is a great advocate for a darkened room and careful nursing by judicious male attendants. Women cannot restrain patients who, in terror at the imaginary objects of "horror" by which they are surrounded, are apt to be violent. He regards with well-

founded disfavoured the system of forcing sleep by large doses of morphia, and has seen more than one person die with all the symptoms of narcotic poisoning, who were thus treated.

Queen's Hospital, Birmingham.—The following is Dr. Fleming's treatment of delirium tremens. The patient is placed in bed. All harshness or restraint, unless absolutely necessary, is carefully avoided. Tranquillity and a free supply of pure air are secured. The face, neck, and arms are sponged from time to time with tepid water. As a drink, Carrara water or toast-and-water is given freely. For diet, the patient has at first milk and strong beef-tea alternately every four hours, and gradually, as the appetite improves, chicken, mutton, etc., until the stomach can accept the ordinary food. Alcoholic stimulants in every form are stopped at once and entirely. If there be any manifest symptoms of faintness, the following is prescribed.

R *Ætheris chlorici* (Duncan and Flockhart), *spiritus ammoniæ aromatici*, sing. ℥ij; *tincturæ lavandulæ comp.* ℥iv; *spiritus vini gallici* ℥x. Two drachms for a dose, in a wineglassful of water, every two or four hours, according to circumstances.

The further addition of alcoholic poison having been stopped, the objects of treatment are—1, to eliminate the poison already in the blood; 2, to control its effects; 3, to favour convalescence. To promote elimination by the skin and kidneys, the following mixture is given.

R *Spiritus ætheris nitrosi*, *liquoris ammoniæ acetatis*, sing. ℥v; *sodæ phosphatis*, *sodæ et potassæ tartratis*, sing. ℥v; *aquæ ad* ℥xx. M. Two ounces every four hours, two hours before meals.

Should an active purge be indicated, Dr. Fleming gives the colocynth and hyoscyamus pill, with from half a grain to a grain of the acetic extract of colchicum. The second object of treatment, that of controlling the effects of the poison, is attained by the administration of a mixture of ten drachms of dilute phosphoric acid with twenty drachms of tincture of hops. Of this, two drachms are to be taken every four hours, one hour before food, in a large wineglassful of water. This helps to sustain the patient, and lessens the feeling of depression. At bedtime, the following draught is ordered.

R *Tincturæ cannabis* ℥xxx. ad lx.; *liquoris morphiæ acetatis* ℥xv ad lx.; *spiritus ætheris nitrosi* ℥j; *aquæ pimentæ ad* ℥ij. M.

This seldom fails to induce sleep. This medication is pursued until convalescence is established, when the tonic regimen is strictly enforced, including good food, pure air, cold bathing, with zinc and iron as blood-tonics. This treatment has furnished very good results; and Dr. Fleming considers that it compares most favourably with other modes of cure.

Aberdeen Royal Infirmary.—Dr. Harvey has long since abandoned the practice of treating delirium tremens with heroic doses of opium, and of using much restraint with the jacket. His treatment of it has been, on the whole, "expectant"—letting the patient alone, giving him plenty of food, and moderate exercise in the ward or out of doors, if in a condition for it. He is inclined, however, to think that, from his knowledge of the *calmative* action on the nervous system of bromide

of potassium in full doses (twenty to thirty grains, repeated daily, at short intervals), this article of the materia medica will be found to prove a valuable remedy in the graver forms of the disease.

Edinburgh Royal Infirmary.—Dr. Laycock has treated a considerable number of cases. The following notes have been kindly compiled and sent us by Dr. David Ferrier, his late clinical assistant. In all cases of delirium tremens, Dr. Laycock insists at the outset on perfect quiet. The hands and feet are washed; the room kept cool and fresh, but not cold. No mechanical restraint of any kind is attempted. Food is given, of a quality and kind suited to the state of the stomach. At first, it is often refused; in which case it is administered in a concentrated form (beef tea, etc.), in small quantities, at intervals of one or two hours. If the breath smell of drink, and there be reason to think that the patient is labouring under an overdose, a gentle emetic is prescribed. In other cases, emetics are not employed. In the majority of cases, there is stomachic or biliary derangement. In some, food is vomited, or, if retained, causes pain, because of the congested and inflamed state of the mucous membrane of the stomach. In such cases, a pill containing a third of a grain of nitrate of silver, a third of a grain of hydrochlorate of morphia, and a sixth of a grain of calomel, gives great relief, and lessens the desire for stimulants. In cases of constipation and hepatic congestion, podophyllin, calomel, colocynth and hyoscyamus, castor-oil, etc., are ordinarily used. Podophyllin seems to have good effect. The following formula has been used by Dr. Laycock with advantage: Two grains of extract of podophyllin, and a scruple each of compound cinnamon powder and extract of hyoscyamus, with a sufficient quantity of mucilage; the mass to be made into four pills, and one to be taken every six hours till the bowels are moved. In the majority of cases, no other method of treatment is adopted than rest, nutrients, and purgation if necessary; and the method is followed by complete success. A favourable termination is expected, independently in most cases, of active remedies, in from four to fourteen days. The average duration of treatment is six days; and such also seems to be the result of cases treated more lately by Dr. Sanders according to the expectant method. Medicinal agents are used, with the purpose of favouring the natural tendency to recovery. The effect of drugs used to this end cannot in many cases be satisfactorily determined, since it is difficult to eliminate, from the influence of the drugs employed, the share due to diet and regimen, and that due to nature. It seems probable, that they exercise an influence over the intensity of the symptoms, although they may not either cause sleep or shorten the duration of the disease. The indications for the employment of alcoholic stimulants are drawn from the condition of the patient. When food has not been taken for several days, and the hallucinations are of a frightful or distressing kind, and especially when the pulse is very quick and feeble, the first sound of the heart heard indistinctly, the tongue coated, œdematous, and indented at the edges, wine and brandy may be administered medicinally with advantage. Except in such cases of protraction, alcoholic stimulants are not employed. Great caution, Dr. Laycock thinks, is shown in the administration of opium and its salts. It is never given in cases which indicate

any tendency to serious encephalic lesion or insanity. These cases are characterised by a tendency to aggressiveness, where the notional delusions predominate over the hallucinations of the senses, and where the state of the pulse and nervous system indicate the sthenic rather than the asthenic type of delirium. It is not always easy to determine beforehand when opium tends to produce greater prostration and distress. Generally, however, the patient is of a nervous habit, with a florid complexion, or at least has had, and is of a neuro-vascular diathesis. When not contraindicated by these conditions, opium is sometimes administered with advantage, but never in more than ordinary doses; and regard is always had to the effect of the drug in exciting contraction of the pupils. The want of sleep is often the result of a morbid apprehension of sleepless nights; and, in such cases, a placebo, administered with the assurance that it is a powerful hypnotic, is often successful. Where there is great exhaustion, and morphia is inadmissible, camphor in from two to three grains every three hours, or the carbonate of ammonia combined with camphor and hyoseyamus, often prove useful. Cases intolerant of opium or stimulants of the sthenic type, and especially where there is some inflammatory complication, as pneumonia, are successfully treated by small doses of tartar emetic. Dr. Laycock has not much experience of digitalis. From the results of several cases treated by Dr. Sanders in the Royal Infirmary, Edinburgh, with half-drachm doses of the tincture of digitalis three times a day, it has proved beneficial. All the cases treated in this way were severe cases, and all recovered speedily. The administration of the drug was discontinued when the pulse became moderate and the signs of delirium had abated. The average duration of stay in the hospital was seven days. Chloroform has been employed in very violent cases with advantage—viz. in those cases where great exhaustion would follow continued raving and struggling; thus demonstrating the patient's powers of recovery.

ART. 17.—*Hoarseness and Loss of Voice in relation to Nervo-Muscular Affections of the Larynx.*

By MORELL MACKENZIE, M.D.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Medico-Chir. Review*, July.)

In the present paper Dr. Mackenzie treats of the morbid affections of the larynx which are dependent upon derangements of the nervous system, and which, though hitherto difficult to distinguish during life, are now in some measure capable of being recognised by means of the laryngoscope, the vocal cords being seen to act irregularly in many such cases, while in others the muscles on one side or the other are visibly wasted. The nervous affections of the larynx are divided by Dr. Mackenzie into diseases of the motor system and diseases of the sensory system, the latter being, however, much fewer in number than the former. The diseases of the motor system are again divided by him into (1) paralysis of the vocal cords, and (2) spasm of the vocal cords. The

paralytic cases are divisible into various groups, according to the muscles or the groups of muscles affected.

These divisions and subdivisions are described at considerable length and with great minuteness by Dr. Mackenzie, and illustrated wood-cuts are occasionally given to exhibit the appearances presented by the vocal cords in some of these affections. It would be impossible to follow Dr. Mackenzie through the details of his paper without transcribing a large part of the voluminous descriptions and diagnostic signs in which it abounds, and in the present abstract it is only possible to advert to some of the most striking points to which he draws attention. Many of the cases described being what are called nervous or hysterical will yield to appropriate constitutional treatment, but Dr. Mackenzie attaches great importance in many nervo-muscular affections of the larynx to the use of electricity, applied by means of an apparatus devised by himself, and figured in the plates accompanying the paper. By means of this apparatus one pole of the battery is introduced within the glottis, and the other is applied externally, and the current is thus made to pass through the larynx. Dr. Mackenzie states that out of more than 200 cases which he has treated in this way, he has met with only four in which he has been unsuccessful. In certain cases, however, Dr. Mackenzie applies the current in a somewhat modified manner, the extremity of one pole being introduced into the larynx, and the other into the hyoid fossa, so that the current passes right through the adductor of the vocal cord, to which it is applied.

In two engravings Dr. Mackenzie represents respectively a case of cancer of the thyroid gland, and one of aneurism of the arch of the aorta, in both of which there was paralysis of the abductor of the left vocal cord, and both of course, terminated fatally. Among the spasmodic affections of the vocal apparatus, Dr. Mackenzie describes the affection known as the laryngismus stridulus, which he considers a disease of adult as well as of very early years, although there is considerable difference in the symptoms in these two cases.

ART. 18.—*Case of Epilepsy successfully treated with Assafoetida.*

Under the care of Dr. POLLOCK, of Charing-cross Hospital.

(*The Lancet*, August 21.)

The following case is interesting not less as an example of failure of the bromide of potassium to influence the recurrence of fits described as epileptic in character, than from the successful results attending the use of assafoetida.

C. Y——, an unmarried woman, twenty-nine years of age, applied at the hospital in November, 1868, suffering from epileptic fits. She said she had been liable to them since she was nineteen years of age, and that they had been gradually increasing in severity and frequency, usually attacking her once or twice in a fortnight. She loses all consciousness, falls down, struggles violently, bites her tongue and lips,

exhibiting, in fact, all the usual phenomena of an epileptic fit, ending with a deep sleep, from which she wakes much exhausted. The attacks come on quite unexpectedly. She has a sallow complexion, and the distressed and anxious look so common in epileptics. Her general health is pretty good, and she menstruates regularly. The case was first treated with bromide of potassium, gradually increasing the dose from fifteen to forty grains three times a day, but without the slightest benefit. Sulphate of zinc, quinine, and tincture of iron were all tried in full doses, but no good result followed. In April last half a drachm of tincture of assafoetida with three grains of carbonate of ammonia was given three times a day, and with a most satisfactory effect. Since the first week that the remedy was tried she has had no return of the fits, though she suffers at times from head-ache and a feeling as if a fit were coming on. She has her medicine renewed occasionally, and is still under observation.

Dr. Pollock remarks, that if the fits had not been so clearly epileptic (she had one on one occasion while being seen at the hospital), it might be supposed that the case was one of hysteria; but there can be no doubt as to the nature of the disorder, though it is accompanied by some symptoms of a nervous character, which first led to the employment of the assafoetida.

The hint afforded by this case has been taken advantage of, and other cases of epilepsy have been treated with the same drug, but at present, without any decided results. It may be worth while, Dr. Pollock suggests, to adopt the mode of treatment in cases where other medicines have been given without affording any relief.

ART. 19.—*Treatment of Nervous Headache.*

By WILLIAM A. HAMMOND, M.D.

(*The Medical Record*, March 1.)

The following remedies in the treatment of this affection are recommended by Professor W. A. Hammond: Oxide of zinc is of great value; ordinary dose, two grains three times a day, after meals; maximum dose, five grains. It is best given in the form of pills. Bismuth, in the form of subcarbonate, will often take the place of oxide of zinc. Dose, two grains after each meal. Bismuth probably assists digestion more than any mineral tonic, and is of use when there is gastric disturbance.

ART. 20.—*Certain Forms of Paralysis Depending on Idea.**

By J. RUSSELL REYNOLDS, M.D., F.R.S.

(*British Medical Journal*, October 2.)

The object of the paper was to show that some of the most serious disorders of the nervous system, such as paralysis, spasm, and other

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds July 27th, 28th, 29th, and 30th, 1869.

altered sensations, may depend on the morbid condition of idea, or of idea and emotion together. Such symptoms, it was said, often existed for a long time, and resist many different kinds of treatment, and disappear entirely upon the removal of the erroneous idea. Instances were given of the acute effects of idea, emotion, and startling intelligence. The severity of some symptoms was also described as arising from mental emotion and disturbance, though there was no genuine pain. The resistance offered by these maladies to the ordinary treatment was illustrated; but in the cases adduced nothing had been done but practically to counteract the exaggerated notion of the patient, and to compel him to use the voluntary power which remained to him, but which had become for some time practically inoperative. Incurable cases were mentioned, and also the sort of diagnosis to be formed under peculiar circumstances. Earnest dealing with such cases was recommended, and the holding out of a confident expectation that if certain plans were adopted a cure would follow. He believed that there were means for remedying these cases, but the treatment could be much better applied in hospitals than in private practice.

ART. 21.—*On Certain Forms of Paralysis and their Treatment by Electricity.*

By WALTER G. SMITH, M.B., Fellow of the College of Physicians ;
Assistant Physician to the Adelaide Hospital.

(*Dublin Quarterly Journal of Medical Science*, August.)

The principal causes which have tended to the comparative neglect of electricity, or have been a bar to the increase of our knowledge, Dr. Smith writes, are briefly these:—

1. Imperfect physiological knowledge. Neuropathology and physiology, especially in their relations to electricity, have advanced rapidly of late years; still we are far from having a sufficiently wide basis on which to ground a perfectly successful clinical application of electricity, and in some cases we must rest satisfied with the attainment of results of practical utility, without being in a position to explain them satisfactorily.

Accurate clinical observation, guided by the ascertained facts of electro-physiology, will prove the fountain head of future progress in electro-therapeutics, as it has been the foundation of our present knowledge, and it is to be hoped that, as the number of honest workers in this field increases year by year, we may ere long look for a solution of the difficulties which still invest some parts of the subject.

2. It is frequently not had recourse to, till all other means have been tried and found wanting, and accordingly the electric treatment is commenced under the most disadvantageous conditions, and medical men form their opinion of it after diletanti trials, by which blame is cast upon the means when it is the method that is at fault.

3. Indiscriminate use in unsuitable cases.

4. The incomplete and inaccurate mode in which the notes of cases are recorded, so that they are nearly useless for future comparison or reference.

5. Its application too often falls into the hands of ignorant or designing persons, who possess the instruments without the knowledge of how to utilize them with precision.

6. The misrepresentations of early writers, whose marvellous relations obscured the grains of truth that lay beneath their exaggerated stories.

7. The vain pretensions of many of its later advocates, and since it cannot accomplish all that its boasting supporters have asserted, it is, in spite of its powers for good, in danger of relapsing into the hands of charlatans.

In urging these considerations, the author would not be thought to recommend electricity in the spirit of a specialist as an infallible cure, or to claim for it extraordinary sanatory powers. Even in apparently suitable cases it will sometimes disappoint our expectations, and this fate it only shares in common with many of our most trusted resources, such as opium or belladonna.

The cases Dr. Smith details are grouped into the following classes:—1st, Facial Palsy; 2nd, Paralysis from the poison of lead; 3rd, Paralysis from local injury or pressure, whether it be on the nerve or directly upon the muscle; and 4th, Rheumatic Paralysis of the limbs.

“*Facial Paralysis*.—It will be understood that electricity is not indicated in all cases of palsy of the facial muscles, and can only be useless, if not mischievous, in severe traumatic cases.

“Electricity is likewise contra-indicated when the paralysis is due to tumours in the cranial cavity, or in the parotid region involving the seventh nerve, or to disease of the temporal bone.

“In almost all cases of rheumatic facial paralysis the electro-muscular contractility, at least after some time, is below par on the paralysed side, or may even be abolished altogether; and this is a point of capital importance, for in doubtful cases it will essentially aid us in diagnosing an excentric facial palsy from one of central origin. In the latter case the muscles respond normally to the electric stimulus, whether faradic or galvanic; and as this form is usually dependent on hæmorrhage having taken place, we see how a wrong diagnosis might occasion a serious mistake as to treatment.

“The prognosis in rheumatic facial paralysis is generally good, and is guided mainly by reference to the suddenness with which the affection has set in, and its duration, the age of the patient, and the electric excitability of the muscles; for in proportion as this property is preserved will the case be amenable to treatment. Particular attention should be paid to the latter condition in the progress of the case, because if the muscles show little or no signs of returning excitability we may fear that the disease will prove very stubborn, if not incurable.

“In tolerably recent, or even in old cases, though the reaction towards the faradic current is diminished or lost, the reaction towards galvanic stimulation may be heightened (Benedikt).

“While admitting that the use of an interrupted *galvanic current* (from a constant battery), *i.e.* galvanization, is necessary in some cases where faradization fails to elicit contractions in the paralysed muscles, in the majority of cases the most suitable form of electricity is the

primary current (*i.e.* the current from the inner or thick and shorter spiral of an induction machine) applied locally, by means of pointed conductors tipped with moist leather, by direct or indirect faradization. The secondary current (*i.e.* the current from the outer or finer and longer spiral) causes much more pain on account of the greater intensity of the current, and the skin of the face, especially in the middle line, is acutely sensible to electric stimulation. Sometimes only a certain number of the muscles are engaged, and even in the return to their normal state they recover with different degrees of rapidity, and hence we see the importance of directing the faradic treatment to the individual muscles. Stimulation of the muscles which have regained their proper contractility should be avoided, lest any tendency to subsequent contraction should be fostered, and, as a rule, the sittings should be short, and the use of strong currents dispensed with.

"Facial paralysis illustrates well that local palsies, not dependent on central causes or on direct interruption of nervous continuity, are commonly amenable to electricity.

"*Paralysis from Lead Poisoning.*—The cause in these cases is usually sufficiently manifest, but as the patient may not be aware of the channel by which lead has entered the system, in all cases of local paralysis of the limbs, with diminished excitability of the muscles, strict investigation should be made as to the possibility of the unsuspected presence of lead, *e.g.* tailors may be contaminated by holding between their teeth the measuring tape, which has been coated with an enamel of white lead; silk thread is occasionally adulterated with sulphide of lead (produced by steeping the thread in acetate of lead, and then exposing it to sulphuretted hydrogen), and persons have been poisoned by using flour that had been ground by millstones in which some hollows were filled up with lead.

"Since the larger muscles on the forearm are those chiefly impaired in function, faradization is best directed to the muscles by moist sponge electrodes, which cover some extent of surface, but it is to be remembered that too large a sponge offers very considerable resistance to the passage of the current. When it is desirable to act on particular muscles or on small surfaces, such as the thenar and hypothenar prominences, the small conical electrodes should be employed to ensure the proper localization of the current; and in some cases, where the usual method of faradization was insufficient to evoke muscular contractions, I have resorted to electro-puncture with success. This latter method is, of course, far more painful, and requires the intensity of the current to be cautiously adjusted.

"*Paralysis from Local Injury.*—Traumatic paralysis, or that in which the nerves are functionally separated from the nervous centres, depends either on complete solution of the nerve-continuity or on temporary compression of the nerve interfering with its capacity of conducting nerve-force. The former class of cases, which is best clinically illustrated in the paresis sometimes following resection operations, demands a long time, probably at least six months, before any electrical treatment is admissible, and even when anatomical continuity has been re-established, the restitution of functional activity is a matter of weeks or months' patient treatment.

"The latter class, to which my cases belong, not unfrequently arises from such causes as pressure on nerves from luxations, from the too tight application of bandages, or from the weight of the body resting on the nerve during sleep. Spontaneous recovery in these cases is often very tedious, and but little reliance is to be placed on the use of blisters or stimulating local applications, while the timely use of electricity will in most cases be rewarded by a speedy restoration to health.

"The electro-sensibility and excitability are more or less impaired according to the degree of nerve-lesion, and by ascertaining whether electric reaction is obtained when we place one of the electrodes *above* the point of injury, we can diagnose whether the paralysis is due to the inhibitory action of pressure on the nerve or to destruction of the axis-cylinder of the nerve. In the former case, reaction to the electric stimulus is still exhibited, and we can, therefore, at once begin our treatment. In the latter case it is abolished, and time must be allowed for the regeneration of the injured tissue.

"The treatment most generally applicable is a rapidly interrupted primary or secondary current locally applied.

"*Rheumatic Paralysis*.—Without entering upon the debateable ground of the pathology of these affections I will limit the term rheumatic paralysis to those cases in which the palsy appeared to follow on exposure to cold or damp. Such an affection is not an unusual sequela of sciatica, and whether connected with this disease or not, is prone to engage the lower extremities, and in the upper extremities the radial nerve particularly."

In conclusion, the general principles of muscular faradization, Dr. Smith writes, may be thus summed up:—

1. The current should be directed *locally* to the diseased part.
2. The not obtaining visible contractions at once does not warrant us in neglecting to proceed with the electric treatment.
3. *Indirect* faradization (*i.e.* where one electrode is placed over the trunk of the nerve) is generally preferable to *direct* faradization (*i.e.* where both poles are placed upon the muscle.)
4. The use of painful currents is to be discountenanced, and in no case should a feeling of fatigue be induced in the muscles.
5. The difference in the effect of the same electrical stimulus on different muscles is not due to any inherent variations in their electrical sensibility, but simply to physical and anatomical considerations, such as the thickness of the skin and subcutaneous tissues, and the copiousness of the motor-nerve supply of the muscles.
6. In order to lessen the resistance of the epidermis as much as possible, the skin underneath the electrodes should be kept thoroughly moist with salt water, and since *liquids* conduct better when warm than when cold, tepid water should be preferred.
7. To produce contraction of *individual* muscles the small pointed electrode should be connected with the cathode or negative pole of the apparatus, and be placed *firmly* on the skin at the "motor points," or "points of election" (*i.e.* the points of entrance of the motor-nerves into the muscles.)

ART. 22.—*On Neurosis from Moral Shock.*

By Dr. DE BERDT HOVELL.

(London Hospital Reports, vol. iv. ; and British and Foreign Med.-Chir. Review, July.)

The object of this paper appears to be to show that many ailments popularly considered fanciful are really due to some derangements of the nervous system, which, although not exhibiting any objective signs, are productive of great suffering to the patient; and the author argues, moreover, that many instances of what is called irritability of temper are due to internal mental causes, which ought to be the object of sympathy rather than of reproach. Dr. Hovell also thinks that, although the female sex is supposed to be more liable than the male to nervous or so-called hysterical disorders, yet that all are equally liable to the maladies which are comprised under that category.

ART. 23.—*Lateral Deviation of the Eyes in Cases of Hemiplegia.*

By Dr. HUGHLINGS JACKSON, M.D., F.R.C.P.

(The Lancet, November 13.)

Deviation of both eyes from the side of the body paralysed is a symptom which has been remarked in recent cases of hemiplegia by several observers—Gull, Vulpian, Prévost, Humphry, Lockhart Clarke, Hutchinson, Broadbent, Russell Reynolds, and Hughlings Jackson. This curious symptom occurs occasionally with extensive cerebral hæmorrhage, whether this be on the surface, or within the substance of the cerebral hemisphere. Dr. Hughlings Jackson has observed it in two cases of hemiplegia presumably the result of embolism, but in neither case was an autopsy obtained. Sometimes the head is turned in the same direction as the two eyes. It may last a few days or a few hours, but invariably passes off before other parts of the paralysed regions recover. It must be carefully observed, too, that when there is continuous rigidity along with, or perhaps we should say instead of, hemiplegia, the eyes and head may turn to the side of the body affected by such rigidity or spasm; and if there be *occasional* spasm over and above the continued rigidity, the eyes and head turn still further in that direction. These two systems, the deviation of the head and of the two eyes, are of great physiological interest. M. Prévost thinks they imply rudimentary "rotation." They are of great value, also, in helping us to complete the parallel there seems to be betwixt hemiplegia from destruction of the corpus striatum, and hemispasm and hemichorea from instability of the cerebral region of which the corpus striatum forms part. Although the movement of turning the eyes to one side seems to be the only ocular movement lost when the corpus striatum is destroyed, the complementary study of hemispasm shows that other, probably all, ocular movements are represented in the corpus striatum. The ocular movement

lost in hemiplegia is the one which is most largely represented of these movements. It suffers most in hemiplegia, just as the arm suffers more than the leg. When, however, a convulsion affects first one side of the body and then the other, we see two lateral deviations, and betwixt these, as the spasm is passing from one side of the body to the other, several conjugate deviations, showing discharge of processes for movements other than lateral of the two eyes. In hemiplegia, as we usually see it, there are no ocular symptoms. It is only when the damage to the brain is sudden and extensive that the deviation of the head and two eyes is observed. But a careful study of the phenomena of hemispasm shows, Dr. Hughlings Jackson thinks, that the cerebral hemisphere contains processes for movements of the unilateral, the alternate, and the bilateral movements of the whole body.

ART. 24.—*On the Nature and Co-ordination of Hysterical Phenomena.*

By Dr. CHAIRON.

(*Gazette Hebdomadaire*, No. 37.)

1. Whenever compression or inflammation of one or both ovaries occurs in a young woman or a girl, there is nearly always sympathetic paralysis of the reflex movement of the epiglottis and of all the organs constituting the pharynx.

2. Every time these two phenomena are found united in the same person there is the commencement of an affection designated by Dr Chairon, hysterical cachexia.

3. An attack of hysteria is but the consequences of this reflex paralysis. The epiglottis is depressed over the superior orifice of the larynx and cannot be elevated, hence result the attack, the feeling of suffocation, the convulsive movements of the limbs, and the spasms, which constitute the hysterical crisis.

4. The asphyxia which proceeds from repeated crises necessarily leads to a perversion of vitality, and consequently, sensual perversions and anæsthesia may be observed in nearly all hysterical subjects.

5. The treatment should therefore be applied directly to the functional disorders of the ovaries. It ought, above all, to be local in order to determine resolution of the ovaritis, the chief if not the unique cause of all the symptoms.

ART. 25.—*Death by Hæmorrhage from Cerebral Tumours.*

Under the care of Dr. HUGHLINGS JACKSON, at the London Hospital.

(*The Lancet*, October 23.)

The modes of death from cerebral tumours are very various. One patient suffers from the tumour slowly, one nervous symptom following another; another dies in what is called brain fever; a third is sud-

denly killed by hæmorrhage from the tumour. Again some patients die without any symptoms referable to the head, and a tumour is found post mortem. Death by hæmorrhage deserves careful recognition. If we have a good history these cases give us little trouble in diagnosis.

A boy, aged nine, was under Dr. Hughlings Jackson's care at the London Hospital, for paralysis of the third nerve on one side, and hemiplegia on the other. These symptoms had come on slowly with headache: and there was a double optic neuritis. He died during the night of effusion of blood from a tumour of the crus cerebri, which caused the paralytic symptoms. The palsy of the third nerve on one side, and of the arm and leg on the other, pointed to disease of the crus cerebri. The gradual onset of the paralysis, and its complication with double optic neuritis, made it certain that the disease was of some *coarse* kind. The age of the patient rendered it most probable that this coarse disease was tumour. His sudden death led to the inference of hæmorrhage from tumour.

The following case might easily have given trouble in diagnosis had not the patient's previous history been known. A man twenty-three years of age, under the care of Dr. Ramskill, had convulsive attacks; he suffered intense pain in his head, and there was double optic neuritis. It was almost certain from these symptoms that there was intracranial tumour. He was doing very well, being about the ward. He had a good appetite, and was able to read, when one night he was seized with a convulsion, became very deeply comatose, and died in two or three hours. Dr. Sutton found at the autopsy a gliomatous tumour of the fore part of the left anterior cerebral lobe, with recent effusion of blood to the extent of several ounces.

Had this man been brought to the hospital under like circumstances to those of the patient whose case is next related, the diagnosis would have been impossible, unless, perhaps, the ophthalmoscope had been used. If we find optic neuritis in a young, healthily-built patient, who has become comatose after a convulsion, we should, Dr. Hughlings Jackson thinks, be warranted in diagnosing tumour, but we could not say there was hæmorrhage from that tumour. It is well known that patients, the subjects of organic disease of many kinds, probably of any kind affecting one cerebral hemisphere, are liable to coma after attacks of simpler convulsions—*i. e.*, convulsive attacks without any effusion of blood.

But if the patient with optic neuritis were *very deeply* comatose, especially if he were so after but one sudden convulsion; if the fit was not known to have begun by a deliberate "aura" in the face, arm, or leg, and especially if the patient had had fits so beginning before; if there were no discoverable hemiplegia, we should fear hæmorrhage from a tumour, and we should believe the patient would die. But we have not always such helps. The diagnosis is not always ready made. In the following case the patient was not young, there was no known convulsion, and there were no changes in the optic discs, and the history Mr. Leach supplied was not obtained until after the autopsy. It is needless to say that the diagnosis of hæmorrhage from cerebral tumour was in this case impossible. It has no less value on that account.

A man fifty-six years of age was discharged on July 1st from the

Dreadnought for a simple infraction of the rules. The only symptom the man then had was pain in the head. He was brought, on July 10th, in a comatose state, to the London Hospital. He died there that night, at 1.30 A.M. All the police knew was that the poor fellow had been picked up in the street the day before, and taken to his lodgings, when he was supposed to be tipsy. As he did not get up next morning, he was looked after at midday. At the autopsy a vascular tumour was found in the posterior lobe of the left hemisphere, close upon the middle cornu, and in the descending cornu. In the lateral ventricle was an effusion of blood to the extent of several ounces, which had presumably come from the tumour, as no part of the brain was broken up except the wall of the middle cornu near the tumour.

ART. 26.—*On Sunstroke.*

By GOUVERNEUR M. SMITH, M.D., Physician to the New York Hospital, N.Y.

(*The Medical Record*, July 15.)

In formerly studying the etiology of sunstroke, Dr. Smith was led to conclude that heat was not the sole cause of this malady, and inferred so for the following reasons: A hot, *dry* atmosphere, it had been contended, might to a certain extent be resisted, for it allows free evaporation of moisture from the nostrils and air passages as well as from the skin, and the body is thereby cooled. If the *dew point*, on the contrary, is *high*, very little evaporation from these surfaces can take place, and the body more quickly becomes overheated. A fall or rise in the animal temperature of a few degrees is prejudicial to life.

In 1853, about 60 cases of insolation were treated in the New York Hospital, and an admirable paper relating to them was published in the *New York Journal of Medicine* by Dr. H. D. Swift, Resident Physician, now deceased. During that season the dew point was very high, and quite a number of persons were prostrated in a laundry and sugar refinery, where the air was additionally surcharged with aqueous vapour, and it, therefore, seemed probable that two meteorological influences—viz., atmospheric heat and atmospheric moisture, were active agents in the causation.

In speaking of the *treatment* of sunstroke, Dr. Smith says the milder form, or that of simple syncope, is to be treated like cases of faintness; the graver form of syncope, or that of sudden and profound collapse, requires the immediate exhibition of restoratives. The nervous system has been overwhelmed, and vital action has almost ceased. The means suited to relieve such a condition are obvious.

As the patients are insensible and cannot swallow cooling drinks, we should, writes Dr. Smith, therefore apply cold to the head, or, what is better, to the arms, and further, even to the neck and chest, and thus expose a larger surface in which the blood can be tempered.

If the case is an extreme one, and the temperature is very high, it may be well to strip off all the clothing and sponge the entire body with

cold water, or to use the sudden cold douche; and if these means are insufficient to cool the patient and to rouse him, it may be necessary to apply ice to the head and axillæ, and to rub the trunk and extremities with the same material.

The use of ice in such cases was introduced into the New York Hospital in 1857, by Dr. B. Darrach, at that time Resident Physician. In the *American Journal of the Medical Sciences* for Jan. 1859, he published a report of four cases treated in this manner; three recovered and one died.

It should constantly be borne in mind that cold is a most powerful remedy. These patients have a tendency to collapse, and if intense cold is unnecessarily employed, it may hasten such an unfortunate condition. The degree of the cooling process should, therefore, be suited to the gravity and condition of the patient. Resort is not to be had to the ice frictions until it is found that cool sponging or the douche have failed to reduce the temperature and to revive to partial consciousness.

Some patients come into our hands while in a state of collapse, being cadaverous in colour and temperature. It would obviously be improper to employ such treatment in these cases; they have passed the stage in which refrigerant means are indicated, and now require artificial heat, sinapisms, warm frictions, and stimulating enemata to restore them.

In many cases in which the cooling process is applied, we find that the temperature of the body has diminished, the respirations become more natural, the pulse less frequent, and that consciousness has returned. This favourable condition may occur in a few moments or may not be reached for several hours, during which time, however, the harsher method of treatment is not to be continually applied, but the gentler partial applications.

In some instances the temperature falls, but there is imperfect consciousness and delirium—such patients are to be carefully dried, placed comfortably in bed, and stimulating enemata exhibited, while the head can be kept cool if extraordinarily heated. As the lungs are generally early congested, it is desirable to place sinapisms on the extremities and chest, or upon the latter dry cups may be employed. By thus favouring the peripheric circulation we lessen the liabilities to pulmonary and to other centric engorgements.

Dr. Beatson, surgeon in the India service, has encountered sunstroke among the troops under his charge, and gives the following concise directions in reference to the immediate treatment: "Unfasten as quickly as possible the man's dress and accoutrements, to expose the neck and chest, get him under the shade of a bush, raise his head a little, and commence the affusion of cold water from a sheepskin bag, continuing the affusion at intervals over the head, chest, and epigastrium, until consciousness and the power of swallowing return. When this takes place the affusion may be stopped and a stimulant mixture given occasionally in small doses."

In regard to the use of stimulants, the author remarks that the same caution must be taken in prescribing them as in ordinary cold applications. As soon as the patient can swallow, water can be allowed. If the pulse is frequent and feeble, stimulants are to be given, regulating the quantity by the effect produced. In administering the alcoholic and

diffusible restoratives, we should be governed by the force and frequency of the pulse. Their inconsiderate exhibition will prove as injurious as their judicious employment will prove salutary.

Patients, on being discharged, should be advised to avoid as far as possible physical and mental labour, and to avoid exposure to the sun for some days after their convalescence, and should be cautioned to give heed to these points for some time after their health has been restored. Inattention to these precautions may induce morbid nervous phenomena, from which relief may never be obtained.

With regard to the *prevention* of sunstroke, Dr. Smith writes, during extraordinary warm weather it is especially desirable to avoid all enervating influences.

As diaphoresis is generally profuse in warm weather, so there is a corresponding thirst. It seems proper to assuage such natural craving by cool water in suitable quantities. The excessive use of cold or iced water has been condemned, and has been regarded by some as a cause of sunstroke; the system, however, should not be allowed to suffer for want of water, for abstemiousness would induce the disease. Water is to be taken that it may perform its ordinary office, in this instance, particularly, that it may moderately temper the blood and be evaporated from the nostrils, air-passages, and skin, and thus gradually cool the body. It does not, however, seem desirable to induce sudden shocks of the system by frequently drinking very cold beverages in large quantities. There may possibly be febrile reactions in the system after the chills induced by such draughts.

Dr. McDowall, Assist. Surg. of the Bombay Army, in writing in 1865, on the colour of clothing as influencing the temperature, health, and comfort of the wearer, has given his personal experience. He says: "I well remember that when encamped on the shores of the Bosphorus, in Turkey, a little incident occurred which vividly impressed this physical fact on my memory and shoulders. The forenoon being bright and inviting, we (some other officers and myself) determined, Leander-like, to lave our limbs in the classic waters of the East, though not precisely at the same spot he patronized. The walk was pretty long and hot. We one by one took our coats off and carried them on our arms, both on going and coming from the bath. I wore a cherry-coloured flannel shirt, and although all our shoulders were more or less burnt by exposure while in the water I was literally scorched, and for some days suffered greatly from the slightest movement or friction of my coat. We all suffered in *exact proportion to the depth of shade of our flannel*. Now, in the jungle, in the hottest weather, and in the sun, I have often ridden, and do ride still, both for experiment and comfort, in my shirt-sleeves; but that shirt is *white*. Any other colour requires a proportioned thickness—nay, even padding, according to some."

No less attention should be paid to the covering of the head. Hats should be made of light-coloured straw, or felt, and the latter should allow of free ventilation. Assist. Surg. A. A. Woodhull, U. S. A., in his report to the Surgeon-General, in April, 1868, upon the uniform and clothing of our soldiers, in referring to this subject, has said: "But, whatever covering is worn, it must be light in colour, and be raised from the crown, to save the soldier from the disastrous effects of direct solar heat and confined hot air."

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 27.—*The Treatment of Catarrh and Bronchitis.*

By GEORGE JOHNSON, M.D., F.R.C.P., Professor of Medicine in King's College ; Physician to King's College Hospital.

(*British Medical Journal*, October 23.)

The exciting cause of a catarrh, in the great majority of cases, is a chill or some unknown atmospheric influence, which tends to suppress the action of the skin ; and the most successful plan of treatment consists in the employment of means for restoring the free action of the skin. The popular domestic treatment consists in the use of a hot foot-bath at bed-time, a fire in the bed-room, a warm bed, and some hot drink taken after getting into bed, the diaphoretic action being assisted by an extra amount of bed-clothes. Complete immersion in a warm bath is more efficacious than a foot-bath ; but the free action of the skin is much more certainly obtained by the influence of hot air—most surely and profusely, perhaps, by the Turkish bath. The Turkish bath, however, is not always to be had, and, even when available, its use in the treatment of catarrh is attended with some inconvenience. In particular, there is the risk of a too speedy check to the perspiration after the patient leaves the bath. On the whole, the plan which combines in the greatest degree efficiency with universal applicability consists in the use of a simple hot-air bath, which the patient can have in his own bed-room. All that is required is a spirit-lamp with a sufficiently large wick. Such lamps are made of tin, and sold by most surgical instrument makers.

The lamp should hold sufficient spirit to burn for half-an-hour. The patient sits undressed in a chair with the lamp between his feet, rather than under the chair. An attendant then takes two or three blankets and folds them round the patient from his neck to the floor, so as to enclose him and the lamp, the hot air from which passes freely round his body. In from a quarter to half-an-hour there is usually a free perspiration, which may be kept up for a time by getting into bed between hot blankets. Dr. Johnson has himself gone into a hot-air bath suffering from headache, pain in the limbs, and other indications of a severe incipient catarrh, and in the course of half-an-hour has been entirely and permanently freed from these symptoms by the action of the bath.

Another simple and efficient mode of exciting the action of the skin consists in wrapping the undressed patient in a sheet wrung out of warm water, then, over this, folding two or three blankets. The patient may remain thus "packed" for an hour or two, until free perspiration has been excited.

The hot air bath and the wet packing are very useful in the treatment of many forms of disease. Dr. Johnson constantly employs both in the treatment of renal disease ; and not long since he believes that by the wet packing he saved the life of a lady, in whom very alarming symptoms were associated with the imperfect outcoming of the rash of scarlatina.

In the treatment of catarrh, the sweating plan of treatment, to be successful in cutting short the disease, must be adopted early—within a few hours from the commencement of the symptoms.

Another mode of treating catarrh, which is very successful with patients who are tolerant of opium, consists in giving a dose of opium, or morphia, at bed-time. Within half-an-hour after the opiate is taken, it frequently happens that the unpleasant coryza, and every other symptom of catarrh, have passed away. If the patient can avoid exposure on the following day the cure may be complete, and there is no need to repeat the dose.

It is probable that the good effect of the opiate is partly due to its diaphoretic action, which may be increased by combining it with ipecacuanha; but, besides its action upon the skin, there must be some direct influence on the nerves and vessels of the inflamed mucous membrane to explain the speedy relief from discomfort which follows the opiate dose. The opiate treatment of catarrh is not so generally applicable as the sweating plan, for the reason that many persons are intolerant of opium, or they cannot take it without suffering from headache, nausea, and other distressing symptoms, which render it an undesirable remedy for them. In any case the opiate treatment, like the diaphoretic method, is more successful in proportion as it is resorted to early in the attack.

In some persons, repeated doses of ammonia have the effect of lessening the coryza, and other distressing catarrhal symptoms. Five grains of sesquicarbonate of ammonia, or a drachm of the aromatic spirit, may be taken in water every three hours. A single dose of ammonia at bed-time is an efficient and useful diaphoretic, its action being aided by external warmth. Some catarrhal patients experience great relief from an occasional dose of spirit of camphor. The usual dose is from ten to thirty drops in a wineglass of water. In ordinary catarrh, as a rule, no change of diet is required. A catarrh which has gone on unchecked for a few days is sometimes much mitigated by a generous diet and an extra glass of wine.

Those who are especially liable to catarrh should be careful to keep their feet warm and dry; and they should be warmly clothed, wearing woollen next the skin. They should avoid excessive wrapping up; since this, with even gentle exercise, tends to overheat the body, and so to increase the risk of a subsequent chill. The practice of wearing a hare-skin, wash-leather, or thick folds of flannel over the chest, is to be condemned as at once filthy and unwholesome.

It may be well to remind catarrhal subjects that the nose is a natural respirator, so that, in passing from a hot room into the open air, if the mouth be kept closed, the air, in its passage through the nostrils, has its temperature raised before it enters the chest.

There is reason to believe that the daily use of a cold sponge bath, or a shower-bath, has a wholesome hardening influence upon those who adopt it, and that it renders them less liable to attacks of catarrh.

Treatment of Acute Bronchitis.—Acute bronchitis is an exaggerated catarrh; the two diseases are essentially the same, and they require the same principle of treatment, only modified according to the character of the symptoms.

In the early stage of acute bronchitis, when the mucous membrane is dry and swollen, the hot-air bath or the wet packing may be employed once or oftener with advantage. Another very useful remedy in this stage is tartar emetic, in doses of one-sixth of a grain, combined with liquor ammoniæ acetatis. This mixture exerts a diaphoretic action both upon the skin, and the mucous membrane of the air-passages; thus it brings on the stage of secretion, and with this a mitigation of the vascular engorgement. The patient should remain in bed, and the temperature of the room should be maintained at from 60 deg. to 65 deg., the air being kept moist by steam from the spout of a kettle, or a special boiler on the fire. The inhalation of steam, repeated several times in the course of the day, is often very soothing and beneficial. Hot fomentations may be applied to the front and back of the chest by means of spongio-piline, or flannels covered with mackintosh. A mild mustard-poultice to the front of the chest is a good remedy for a sense of tightness and dyspnœa.

When dyspnœa, with a feeling of tightness and oppression at the chest, is urgent and distressing, the application of a few leeches to the chest, or a moderate abstraction of blood by cupping, often affords prompt, decisive, and permanent relief. Venæsection is very rarely required; though, in the case of a plethoric subject suddenly seized with general capillary bronchitis, and threatened with death from apnœa, venæsection may prove a life-saving remedy. Milk and beef-tea form the most suitable diet during this stage of the disease. Stimulants and opiates are to be avoided, as a rule, on account of their tendency to increase the congestion and dryness of the inflamed mucous membrane. In the second stage, when a free secretion has been established, antimony and acetate of ammonia are to be discontinued. At this period, a combination of sesquicarbonate of ammonia, with spirit of chloroform, is useful as a stimulating expectorant and antispasmodic. Brandy or wine in moderate quantities may now be required to sustain the strength. When, in the advanced stages, there is a profuse purulent secretion, with copious perspirations, the ammonia mixture may be replaced by one, each dose of which contains a grain of sulphate of quinine, two grains of sulphate of zinc, and twenty minims of aromatic sulphuric acid. This combination often checks very rapidly the excessive secretion from the bronchial mucous membrane. The stimulating expectorants are sometimes useful at this stage of the disease—senega, squills, ammoniacum, and the compound tincture of benzoin. If, as sometimes happens, the stimulating expectorants suddenly check secretion, tighten the breath, and increase dyspnœa, their employment must at once be discontinued. When the secretions accumulate and threaten suffocation, the patient being blue, and cold, and drowsy, and the cough nearly or quite ceasing, an emetic of sulphate of zinc is often wonderfully efficacious in clearing the air-passages.

Here Dr. Johnson gives an especial warning with regard to opium. A patient who has been sitting up in bed, labouring for breath day and night, naturally craves for sleep, and begs for an opiate. Now, a small dose of opium given in such a case, has caused fatal narcotism in numberless instances. The opiate stops the cough, and, of course, the expectoration; the patient sleeps more and more heavily; meanwhile

the secretion accumulates, and causes fatal apnoea. Never, therefore, give an opiate to a bronchitic patient who has the slightest blueness of the lips. When the expectoration is quite free, and the lips are florid, you may sometimes venture to give a small opiate with antimony or ipecacuanha, or you may give a drachm of the compound tincture of camphor, or twenty minims of chlorodyne. The good effects of a few hours' sleep thus procured are sometimes very manifest.

When bronchitis is associated with blood-contamination consequent on Bright's disease, diaphoretics, purgatives, and dry cupping over the loins, are amongst the most useful remedies.

The treatment of *chronic bronchitis* is essentially the same as that of the acute form of the disease. They merge into each other by imperceptible degrees. An acute attack may subside into a chronic condition, and exposure to cold will quickly convert chronic into acute bronchitis.

Amongst other remedies in the chronic stage, the inhalation of the vapour of creosote, or oil of turpentine, by means of a Nelson's inhaler, is often beneficial. These vapours facilitate expectoration at the same time that they tend to check the profuse purulent secretion. The abundant secretion may sometimes be checked by inhaling, in the form of spray, a solution of tannic acid.

In treating diseases of the air-passages by the inhalation of vapours, it should be borne in mind that these vapours rapidly pass beyond the lungs; they are quickly absorbed and enter the circulation, causing, in some instances, headache and other discomforts.

Change of air, and, in particular, a residence in a mild, dry, and equable climate, are amongst the most important remedial and preventive measures.

ART. 28.—*On the Influence of Pleurisy in the Production of Phthisis.*

By ANDREW CLARK, M.D.

(*The Lancet*, October 23.)

At a meeting of the Medical Society of London, held October 18th, Dr. Andrew Clark read a paper "On the Influence of Pleurisy in the Production of Phthisis." He described it as a mere statement of results of inquiries into the relation of the two diseases. By phthisis he meant any disease in which there was ulceration or suppurative destruction, more or less circumscribed, of portions of the lung: hence there was "pneumonic," "tuberculous," "fibroid" phthisis, &c. By pleurisy he meant cases in which a large amount of lymph was exuded, rather than serosity, and in which, after the acute stage is passed, there was just enough local inflammation left behind to prevent repair. If asked what relation there was between the two diseases, the general answer would be, None: and he referred to the opinions of Baillie and Laennec, who denied the connexion, and of Louis, in which the most complete denial was to be found. Louis said that dry pleurisies were caused by tubercle; but he disbelieved the converse, when he must have seen cases in which there was dry pleurisy of the base of the lung, without tubercle. Baglivi

contended for the opposite view, and he and others belonged to what may be termed the "inflammatory" party, which conceded all to inflammation. This party was defeated by what may be termed the "constitutionalists," whose doctrines, as typified by Louis's opinions, were generally accepted, and have been handed down to recent times. In 1848, however, Addison made his assault on them, and showed that tubercular lungs might be the ultimate result of pneumonia,—a state of things which he designated as pneumonic phthisis. Addison, indeed, laid the foundation-stone of that reform in the nomenclature of lung disease which, if not accomplished, is at least near at hand. The author had traced out this connexion, and in 1858 he began to keep an eye upon all his cases of pleurisy, having them under constant observation for years after the attack, and the proportion issuing in basic lung disease of a phthisical character is large enough to take them out of the category of coincidences. There were two modes of evolution of phthisis in these cases: By an uniform invasion and hardening of the lung by fibroid tissue. This was not necessarily followed by the breaking up of the lung; it was the cirrhosis and interstitial pneumonia of authors. The other was an irregular distribution of fibroid matter, which alters the local circulation, so as to induce tubercular deposit. [Drawings were handed round the room as illustrations of these facts, and Dr. Clark produced a young woman who had fibroid phthisis consequent on pleurisy.] The conditions most likely to be followed by phthisis were those in which a large amount of lymph was effused, and where local irritation persisted after the acute attack subsided. When the fibroid deposits begin to soften, tubercle appears. The signs were generally those of condensation, with retraction; the symptoms, ineffectual cough, ending in vomiting, difficult expectoration, with greyish sputa, presently fetid; the treatment, local blistering, iodine inhalations, and iodide of potassium and alkalies internally. The moral of the history of these cases is mainly this: When a patient comes under observation with pleurisy, to vigorously treat him till all appearance of local disease has gone, and not to lose sight of him till then.

ART. 29.—*Prescription for Whooping Cough.*

By VALENTINE MOTT, M.D.

(*Medical Record*, March 1st.)

The late Dr. Valentine Mott's prescription for whooping cough was as follows:

℞ Hydrocyanic acid gtt. vi.
 Ext. belladonna gr. ij.
 Paregoric f. ℥iij.
 Syrup balsam of Tolu f. ℥j.
 Aqua f. ℥iij.

M.S.—One teaspoonful four times daily.

ART. 30.—*On the Practical and Pathological Bearings of Recent Researches as to the Artificial Production of Tubercle.**

By J. BURDON SANDERSON, M.D., F.R.S.

(*British Medical Journal*, September 4.)

The purpose of the paper was to bring the facts relating to artificial tuberculosis in animals into harmony with the results of clinical experience and pathological observation in man. In the guinea-pig, tuberculosis may be produced either traumatically or (with much greater certainty) by the insertion of an infective material into the living body. Dr. Sanderson had found that, whereas the traumatic method is very uncertain, the disease can be communicated with absolute certainty by the introduction even of infinitesimal quantities of diseased material, taken directly from the living animal into the pleura or peritoneum by means of a syringe for hypodermic injection. When this mode of inoculation is adopted, the local results are so slight, that the operation leaves no trace whatever behind it. It is not until three weeks or a month later that the morbid effects begin to manifest themselves in the form of crops of miliary nodules disseminated in various parts of the serous surface. From the anatomical study of these nodules, Dr. Sanderson had ascertained that, in many parts of the peritoneum and pleura, they do not originate as new growths, but by the hypertrophy of previously existing microscopical masses, which masses, although for the most part so small as to be indistinguishable by the naked eye, consist of the same structural elements, and have the same relation to the serous membrane and to the blood-vessels, as the "tubercles" into which they are metamorphosed as a result of the irritating effect of the infective material introduced into the serous cavity. For a time these granulations constitute the only results of inoculation. Eventually, the mesenteric or bronchial glands become the seat of hyperplastic enlargement; and from them, as from foci of infection, the circulation becomes, as Dr. Sanderson believed, impregnated with the morbid material. This generalisation of the disease manifests itself in all the organs contained in the thoracic and abdominal cavities—*e.g.*, in the lungs, in the form of nodules of catarrhal pneumonia, with deposits round the smallest bronchial tubes; in the liver, as deposits around the smallest bile-ducts; in the spleen as hyperplasia of the Malpighian follicles, etc. In the serous membranes, and in the choroid, the diseased product consists entirely of miliary granulations. In the liver and lungs, it consists partly of catarrhal accumulations of cells occupying alveoli or bile-ducts, but principally of the tissue to which Dr. Sanderson was in the habit of applying the adjective adenoid. By the term adenoid, the striking resemblance of the morbid structure to that of the follicles or ampullæ of the lymphatic glands is intended to be denoted. The im-

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July 27th, 28th, 29th, and 30th, 1869.

portance of this analogy lies in the fact already mentioned, that, as regards the serous membranes, the miliary nodules are nothing more than overgrown masses of adenoid tissue, which are to be found in every guinea-pig beneath the serous epithelium. With reference to the interesting question of the relation of miliary tubercle to the lymphatic system, Dr. Sanderson denied that the epithelium of the lymphatic capillaries becomes transformed into tubercle, as is stated by Professor Klebs and Dr. Aufrecht. He has observed that, in the subperitoneal tissue covering the tendinous centre of the diaphragm, in which the structural relations of miliary tubercle of the peritoneum can often be studied with great advantage, in consequence of the transparency of the membrane, the lymphatic capillaries can be seen to be in a perfectly natural state in the immediate neighbourhood of granulations. On the other hand, the veins in this situation are always surrounded with sheaths of adenoid tissue, from which sheaths (whether lymphatic or not, is not as yet decided) the granulations spring. It is suggested that the authors above quoted, in describing the growth of miliary granulations around lymphatic vessels, had really veins under examination. Dr. Sanderson then proceeded to discuss the bearing of the facts on the various doctrines which have been advanced as to the origin and nature of tubercle during the last twenty or thirty years. Our modern ideas of tubercle date from Laennec, who was enabled, by the weight of his great reputation as a great clinical observer, to enforce his own pathological ideas on this and other subjects independently of evidence. It was Laennec that first taught that phthisis and other analogous diseases are dependent on the growth of a specific product—viz., *tuberculous material* or tubercle—in the affected tissues; maintaining, in contradiction to Broussais, the impossibility of any connexion between it and any form of inflammation. As soon as the microscope began to be used, a basis was sought for the dogma of specificity in the structure of the so-called tuberculous material. Lebert, the most distinguished of the early pathological microscopists, was soon able to discover that its specificity was due to a particular sort of corpuscle, called a *tubercle-corpuscle*. Since that time, tubercle-corpuscles have constantly been spoken of as characteristic of the material in question. The labours of Virchow and his pupils have now dissipated much of the confusion which this imagination of Lebert's introduced into the subject. Virchow has shown that the morbid growths which occur in the organs of persons affected with tuberculous diseases are not characterised by the form or size of the corpuscles, so much as by the interstitial reticulum by which they are held together, and by the relation of the morbid growth to the connective tissue and blood-vessels of the affected part; and, further, that there is nothing in the anatomical structure of a tuberculous growth which is exclusively peculiar to itself; for tubercle, considered anatomically, is but one member of a numerous class of morbid products (called by him lymphomas), in all of which the same corpuscles and the same stroma are met with. In short, there are no peculiarities by which any given specimen of tuberculous material can be determined to be tuberculous. Its character depends, not on what it is either chemically or structurally, but on the changes it undergoes, and its relation to existing structures. Phthisis cannot at present be better defined anatomically

than by saying that it consists in lobular consolidation of one or both lungs, followed by gradual disintegration of the consolidated parts. The most important question in the pathological anatomy of the disease is that of the nature of the consolidation. On this point, the author held that it is not possible to distinguish the induration of phthisis from that of chronic lobular pneumonia, so far as relates to the anatomical characters of the indurative process. Again, the same characters are met with in the lobular pneumonia which results from inoculation, as in phthisis. In either case, the induration is due partly to the thickening of the framework of the organ by the interstitial growth of adenoid tissue, partly to the choking up of the alveoli with catarrhal products. With reference to the etiology of phthisis, the author considered that the origin of tuberculous disease may generally be traced to one of two agencies;—viz., to a constitutional liability or predisposition, of the nature of which we are at present entirely ignorant; or to the influence of prolonged local irritation. With reference to pulmonary consumption, he held that chronic bronchitis, chronic catarrhal pneumonia, and phthisis, cannot be separated from each other by definite lines; and that many cases of phthisis originate from bronchial catarrh. In accounting for the development and widely spread distribution of tuberculous disease in the body, great stress is laid on infection—*i. e.*, the fact that any chronic induration of an organ, if it last long enough unresolved, has a tendency to produce similar indurations elsewhere, not only in adjacent, but in distant organs. The way in which this happens we learn by the study of artificial tuberculosis. Its reality is exemplified in almost every case of phthisis. In conclusion, Dr. Sanderson expressed the opinion that the doctrine of specificity had exercised a sinister influence on the treatment of phthisis and the management of phthisical patients; for it had led men to forget that consumption is influenced by the ordinary causes of inflammation, not only in its origin, but in each step of its progress; and that one most important aim in treatment ought to be to counteract this influence. For this reason, he considered that the treatment of consumptive persons in hospitals for long periods was a great misapplication of the resources of philanthropy. These resources can only be rendered fully available for the purposes for which they are intended by a complete reversal of the present plan of administration. In the first place, no patient should be kept in hospital on the mere ground of his being consumptive, irrespectively of his constitutional state; and, secondly, much greater facilities ought to be given to the poor than exist at present for their immediate admission into hospital whenever suffering from acute pulmonary disease, whether primary, or supervening in the course of chronic phthisis.

ART. 31.—*Ascending and Descending Respiration.*

By J. HAWTREY BENSON, M.D.

(*Dublin Quarterly Journal of Medical Science*, August; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Hawtreay relates a case of cardiac affection in a female, aged nineteen, under his care at the City of Dublin Hospital. From the physical

signs present he diagnosed constriction of the mitral orifice, tricuspid regurgitation, and, from a slight systolic bruit heard louder at the second left cartilage than the second right, he thought there might be disease of the pulmonary sigmoid valves. After a fortnight in hospital the patient had an attack of hemiplegia; sensation and power of motion were lost on the left side. She was semi-comatose, but capable of being roused, and then was delirious or imbecile, and articulated with difficulty. She at this time exhibited the peculiar form of respiration known as "ascending and descending." "There were intervals of perfect apnoea, and these were almost exactly equal in duration to the periods of respiration, and each lasted for an almost constant period of fifteen seconds. Thus each minute was divided into four periods—two of perfect apnoea and two of puerile respiration." Another interesting point was that it was only while the patient was allowed to remain in the semi-comatose state that this peculiar form of breathing was present. When she was roused up the breathing became almost normal; but it again assumed the ascending and descending character when she was allowed to lapse into the semi-comatose state. This condition continued for twenty-four hours; the semi-comatose state and the peculiar respiration then disappeared gradually. She lived six days afterwards. The post-mortem examination revealed great contraction of the auriculo-ventricular opening, a funnel-shaped mitral valve; absence of cordæ tendineæ; the muscoli papillares appeared to be inserted directly into the funnel. Vegetations on the aortic valves; reduction of the calibre of the aorta, which took a sudden bend to the left; thickening and stiffening of the tricuspid valves; no fatty degeneration of the heart. The brain was flabby; the right corpus striatum softened, and three small extravasations of blood were buried in its substance. The author thinks that this case goes far to prove that ascending and descending respiration is in great part a nervous phenomenon, though, for its production, it seems essential that there should be either fatty degeneration of the heart, or constricted mitral orifice, or some cause tending to produce an accumulation of red blood at the left side of the pulmonary circulation, in fulfilment of the conditions considered necessary by Dr. Little, who believes that this peculiar form of respiration is produced by a loss of balance between the efficiency of the two ventricles. In the above case the peculiar breathing was only present when the patient was allowed to remain in the semi-comatose condition. For its production, there seem to be necessary, 1. A certain diseased state of the heart, by reason of which, indirectly, the excito-motor impulse upon the nervous centres, conveyed through the pulmonary branches of the pneumogastric, is diminished. 2. A certain weakened state of those nervous centres, by reason of which the reflecto-motor impulse is diminished.

ART. 32.—*On the Physiological Rationale of Pneumonia and Bronchitis.**

By JAMES NEWTON HEALE, M.D., Physician to the Winchester County Hospital.

(*The Lancet*, November 20.)

Pneumonia has always been described as inflammation of the substance of the lungs. The author ventures to doubt this conclusion, and to suggest that pneumonia may be one thing, and inflammation of the pulmonary tissue another. No doubt can be entertained that the venous blood is sent to the lungs, not because the tissue of those organs requires blood of that particular kind, but because the body at large requires arterial blood; and there seems no ground, either in probability or fact, for supposing that the lungs need for their nourishment either a proportionately large quantity of blood, or blood of a different character, than suffices to accomplish a like purpose in other organs of similar dimensions. But if the blood brought by the pulmonary artery to the lungs is not supplied for the purpose of nourishing its tissue, for what purpose is it sent there? The blood reaches the lungs, firstly, in order that it should be rendered arterial in exact proportion to the requirements of the body at large; and secondly, that a particular force, comprised in the word "vitality" should be excited in exact proportion to the degree in which the change from venous into arterial blood is accomplished.

It is abundantly clear that the quantity of blood carried to the lungs by the pulmonary artery cannot be increased or diminished by any supposed requirements of their tissue for a greater or less supply of blood. The blood so conveyed must be in strict accordance with the quantity of venous blood furnished by all the organs throughout the body taken in the aggregate, which will likewise be in precise relation with the activity of function then exercised, and will in like manner exactly tally with the degree of "vitality" which is in active exercise throughout the body at the same time. The degree in which the blood is being then arterialed furnishes the key to the whole chain of vital phenomena.

Passing to the strictly pathological consideration of the subject, are we justified in drawing the conclusion that pneumonia is identical with inflammation of the lungs?

The author thinks that a state of cirrhosis, either partial or general, fulfils much more nearly the condition of inflammation of the substance of the lungs than does that of pneumonia.

There cannot be a doubt that the lungs do frequently become "engorged" with blood brought by the pulmonary artery, and that this constitutes an early stage, and is indeed nothing else than pneumonia. Whence does that engorgement proceed? Certainly not from a refusal of the tissue of the lungs to appropriate the blood, because if a supply

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, Tuesday, November 9.

of blood out of all proportion to the quantity which that tissue could by any possibility apply to the purposes of its nutrition were the cause of engorgement, the lungs must at all times be in such a state, because it is impossible that the tissue of the lungs could at any time appropriate to its own purposes a hundredth part of the blood brought by the pulmonary artery. When the lungs become engorged it is not on account of the failure of the nutrition of those organs, but because, from some cause, the venous blood when brought to them fails to become arterialised. It is retained in the lungs, and these organs become engorged because the blood is not arterialised and transmitted onwards. Many causes are capable of producing such a result.

1. The lungs may be themselves in fault—*e. g.*, some defect in their structure may prevent the blood being brought into sufficiently close contact with the air.

2. The blood may not be arterialised because the air itself may be in fault.

3. The blood itself may be in fault—*e. g.*, pus-globules, or tuberculous matter artificially introduced, may block up some of the smaller arteries, and prevent the blood reaching the plexus of the air-cell.

4. The failure of the arterialisation may result from a severance of the continuity, whereby the capillaries in the lungs may become dis-united from those in the system at large, where the functional changes in correspondence with arterialisation in the lungs ought to take place; the vitality which should be created by the concurrence of both being arrested, and the arterialisation fails in consequence.

Numerous instances were cited of pneumonia by such circumstances as enumerated above. From the consideration of pneumonia the transition to that of bronchitis is not difficult. Inasmuch as anatomical investigation conclusively proves that the plexus of the bronchial membrane and its peculiar secretion are products of the pulmonary blood-vessels, and not, as was long supposed, of the bronchial arteries, it follows that pneumonia and bronchitis must be nearly allied; but inasmuch as the plexus of the air-cells, when the venous blood is converted into arterial, intervenes between the blood sent by the pulmonary artery and that which reaches the bronchial membrane, this circumstance creates a very notable distinction between the two, and establishes a pathological difference of great importance.

Reflection upon the anatomical peculiarities of these bloodvessels will likewise show that the blood cannot be propelled into the plexus of the bronchial membrane by the direct action of the right ventricle, since that force would be expended before the blood would reach the plexus of the bronchial membrane; and, moreover, the blood, after it has passed the air-cells, has the option, as it were, of reaching the left auricle by the veins, which carry the blood thither without traversing the plexus of the bronchial membrane. Any cause which would have the effect of retarding the blood in its transit through the left auricle would, by impeding its onward flow, increase the quantity of blood which would flow through the plexus of the bronchial membrane, and thus have a tendency to produce congestion in that membrane. Numerous pathological instances illustrative of the above were cited, and the following conclusions were drawn from them:—

1st. That an increased function in the plexus of the bronchial membrane would conduce to diminish any accidental congestion in the left auricle; a copious discharge of bronchial mucus would be calculated to reduce any such congestion by the elimination of the fluid.

2nd. The increased activity of the function of the bronchial membrane, thus called into operation, would materially aid in overcoming the obstacle by bringing into play a largely increased aërating surface; in fact, the whole bronchial membrane would then become auxiliary to the air-cells, not only occasioning additional arterialisation of blood, but also causing an augmented supply of vital influence as the concomitant of such arterialisation, and so assist in overcoming the obstruction which caused the congestion in the auricle. In short, the membrane of the bronchial tubes is made, in such contingencies, to reinforce the action of the pulmonary capillaries, and to supplement its action in the creation of arterial blood and of vital force. The fundamental distinction, therefore, between pneumonia and bronchitis is comprised in the fact that pneumonia is an affection belonging to the blood before it has passed through the air-cells, and while it is yet wholly unarterialised; while bronchitis is an affection of the same blood operating after it has passed the air-cells, and having, at least to some extent, become arterialised; and the morbid action peculiar to bronchitis takes place while the blood is ramifying in the bronchial mucous membrane, and after that particular blood has escaped all risk of pneumonia.

ART. 33.—*Observations on the Treatment of Pneumonia, with an Analysis of Cases Treated by the Author.**

By A. T. H. WATERS, M.D., F.R.C.P., Physician to the
Liverpool Northern Hospital.

(*The Lancet*, November 20.)

The paper was founded on the results of treatment in fifty-three consecutive cases of acute pneumonia treated by the author in the Liverpool Northern Hospital; and was accompanied by a tabular statement presenting the leading features of each case.

Of the age of the patients.—Under ten years, 1 case; between ten and twenty years, 7 cases; between twenty and thirty years, 25 cases; between thirty and forty years, 12 cases; between forty and fifty years, 7 cases; between fifty and sixty years, 1 case. All the patients were males except two. A large proportion of them were sailors. Many were strong, robust-looking men, whose previous health had been good, and in whom the disease had existed for a few days only before admission into the hospital.

The disease was single in 44 cases, involving from one-half to the whole of the lung; it was double in 9 cases. Of the single cases, the

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, November 9.

right lung was attacked in 20, the left in 24. Of the double cases, the left lung was most involved in 6, the right in 1. Both lungs were equally involved—viz., one-half—in two cases.

Of the treatment.—Venæsection was not practised in any case. Only three cases were cupped; and only two had leeches applied. Whenever antimony was given, it was in small doses—from one-twelfth to one-fourth of a grain—except in two instances, in which it was given in doses of three quarters of a grain and a grain. In thirty-three cases—a large majority of the whole—no antimony was given. In a large proportion of the cases some alcoholic stimulant was given early in the disease. In thirty cases alcoholic stimulants formed the main therapeutic agent; and in some of the most severe cases no other medicine was given. In six of the remaining cases stimulants were given after a few days' treatment by other means. The stimulants were given at regular intervals, frequently with food, beef-tea, or milk. In the instances marked by a very rapid pulse and great dyspnœa, brandy was given every hour, or every hour and a half. Mercury—calomel with opium—was not given in any case. In one case blue-pill was given twice a day for six days; but no soreness of the gums was produced. In no other instance was mercury given, except as a purgative in combination with some other drug. In every case nutrients were allowed freely—viz., beef-tea and milk from the commencement of treatment, and solid food as soon as the patient could take it.

Of the results.—Of the fifty-three cases, one died. In this case, after convalescence had apparently set in, and the pulse had fallen to 80, effusion into the pleura took place somewhat suddenly to a large extent, and death soon followed.

The average duration of the fifty-two cases that recovered, *from the commencement of treatment to the period of convalescence*—namely, when all active symptoms had subsided, when the pulse had fallen to a natural or nearly natural standard, and when the patient could take solid food—was 8 1-6th days.

The date of the commencement of the attack was clearly ascertained in 41 cases. The average duration of these *from the onset of disease to the time of convalescence*, was 11½ days.

The average number of days during which the 52 patients remained in the hospital was 24 1-5th days; but of these patients, 6 were kept in for a long time in consequence of impaired health from other causes besides pneumonia—namely, from rheumatic fever, tubercular symptoms and gangrene of the lung, great debility, and emphysema. Excluding these 6 cases, we have, as an average of the remaining 46, 20½ days. In reference to this average it should be borne in mind that the patients were, for the most part, not discharged until they had gained sufficient strength to be able to resume work.

The results of these cases tend to prove that pneumonia is far from being a fatal malady, and that under a treatment which consists in supporting the patient, and in abstaining from depletory or depressing measures, its mortality is low. None but hospital cases have been tabulated, as these alone are available for public reference; but the author stated that he had pursued a similar line of treatment in cases met with in private practice.

In conclusion, the author referred to the general principles of treatment which he adopted. The treatment adopted is not characterised by the exhibition of large doses of any of the so-called antiphlogistic remedies. Nourishment is never withheld if the patients can take it, and powerful purgatives are not resorted to. Stimulants are frequently prescribed at an early period of the disease, and they are often mainly relied on. General bloodletting was never practised, and local bleeding only occasionally (in five of the recorded cases).

The author is of opinion that we possess no remedy which is specially and specifically curative of pneumonia. He occasionally prescribes antimony in small doses; but he thinks the cases are few in which it is useful, and that in no case should its administration be prolonged.

The propriety or impropriety of administering alcohol in pneumonia is one of the most important questions in connexion with the treatment of the disease. No fixed rules can be laid down on this point. Whether stimulants are to be given or not must be decided by the general features of each case. There can be no doubt that many cases of pneumonia may be conducted to a satisfactory issue without the administration of alcohol, and that there are cases in which alcohol aggravates the symptoms. At the same time there are also cases which are as decidedly benefited by it. To distinguish between these cases is sometimes difficult. When the pulse is very quick, the dyspnoea urgent, and the disease extensive, the author never hesitated to prescribe stimulants freely.

The author does not prescribe mercury—calomel with opium—in the disease. He thinks that too high a value has been placed on mercury as a remedy in the stage of hepatisation, and that it possesses no special properties for promoting absorption of the effused matters. It is useful as a purgative; but if given with the view of producing salivation, it will generally be found prejudicial.

Opium is useful in relieving the pain in the side which so often occurs in pneumonia, for allaying cough, and procuring sleep.

Ipecacuanha is apparently useful in some cases. The author frequently gives it with stimulants in the pneumonia of children. Carbonate of ammonia, chloric ether, and bark are also given by the author, either alone or in conjunction with alcoholic stimulants, and quinine as soon as the acute symptoms have subsided. Salines are not, as a rule, administered.

The administration of nourishment forms an important element in the treatment of pneumonia, as well as of all other acute affections. In the early stages of a severe attack there is but little desire for food; and there is a risk, if the mere feelings of the patient are alone consulted, that nourishment may be withholden too long. Beef-tea and milk may be safely allowed even in the acute stage, and as the case progresses the diet should be more liberal. In cases which require an early and free administration of alcohol, nutrients should be given liberally from the first.

The author believes that mild counter-irritation is useful in the early stages of an attack, and that, later, blisters are frequently of service. In conclusion, he observed that, in forming an opinion of the most appropriate treatment in any case of pneumonia, regard must be had to the constitutional condition of the patient, the frequency and character of the pulse, and the antecedent circumstances of the patient, rather

than to the amount of lung involved or the stage which the disease has reached. It is the patient, and not simply the diseased lung, that we have to treat.

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 34.—*Additional Notes on Unusually Rapid Action of the Heart.*

By RICHARD PAYNE COTTON, M.D., Senior Physician to the Hospital for Consumption, Brompton.

(*British Medical Journal*, July 3.)

In the *British Medical Journal* of June 1st, 1867, I related a case, illustrated by sphygmographic drawings by Dr. Sanderson, in which the pulse reached 232 per minute. It was the first of the kind which had been published. In the *Journal* of June 22nd of the same year is a letter addressed to me by Sir Thomas Watson, Bart., in which he describes a very similar case which had fallen under his notice several years previously, and where the pulse reached 216 in the minute. Dr. James Edmunds also described a like case (*Journal*, June 15th, 1867). A short time afterwards, four other cases were recorded—one by Dr. J. D. Brown (*Journal*, July 20th, 1867); two by Dr. R. L. Bowles (*Journal*, July 20th, 1867); and one under the care of Dr. Broadbent at St. Mary's Hospital (*Journal*, August 3rd, 1867).

As this closes the number of cases hitherto placed on record, and the condition is, as Sir Thomas Watson justly remarked, "a very rare form of disorder," I have thought it might be worth while to add the following case, which has lately fallen under my observation.

A few months ago I was requested by Mr. Langhorne, of 227, Brompton Road, to meet him in consultation upon a case of excessive palpitation of the heart. We found the patient—a gentleman aged about 35, and leading ordinarily a very active and anxious life—suffering with severe dyspnoea and general depression, accompanied by marked symptoms of gastric derangement and slight muscular rheumatism. It was impossible to count the pulse, the beats being far too quick, feeble, and apparently irregular; but, on placing the stethoscope upon the heart, we could distinctly count 200 pulsations in the minute—each pulsation being regular and uniform, and consisting of but one sound, and that quite free from murmur. The patient stated that his palpitation and distress had come on simultaneously two days before; and that he had had several previous attacks, but of a milder character.

Remembering the treatment of my former case, I suggested the free use of stimulants, with ammonia, potassa, and digitalis; and, in the course of two days, the heart returned *suddenly* to its normal action, and at the same moment the patient to his ordinary condition—whether as a sequel or a consequence of the treatment, a *post* or a *propter*, I cannot say.

I have very recently seen the same gentleman in perfect health, his heart beating quite naturally, and not exceeding 80 in the minute. He

told me, however, that, since the attack which I have described, he has had several others similar in kind, but less severe; and that on each occasion the heart returned *suddenly* to its proper action.

Of the seven cases now recorded, in four instances the excessive action of the heart terminated *abruptly* and *suddenly*, the patients having been able to tell the exact moment of its occurrence. In the remaining three cases, the same may or may not have obtained; the circumstance either having escaped observation, or not having been stated. This forms an interesting feature in the disorder, and is well worthy of notice in any similar cases which may occur.

I feel much hesitation even in suggesting an explanation of the strange phenomena exhibited in the cases I have related. In my former paper I ventured upon the supposition that they were due either to an obscure and abnormal irritating state of the blood, or to an extreme and inexplicable sensitiveness of the heart itself, or possibly to a combination of both such conditions, but having the common effect of causing the heart to contract upon its contents long before its cavities have had time to become filled to their normal extent. It remains, however, to reconcile with this, or, indeed, any other view of the matter, the *sudden* return of the heart to its healthy action. I confess that I am unable to understand this; but

“There are more things in heaven and earth
Than are dreamt of in our philosophy.”

ART. 35.—*Two Cases of Thrombosis of the Renal Vessels through Injury to the Lumbar Spine, with general Remarks on Thrombosis.*

By W. MOXON, M.D.

(*Guy's Hospital Reports*, vol. xiv.)

One of the cases here described is that of Mr. Poland, in which Dr. Moxon conducted the post-mortem examination. In Mr. Poland's case the ureter of the right kidney was torn across, but the left kidney (although there was no sign of direct violence to it) had its vessels entirely occluded. In the other case, which fell under Dr. Moxon's own notice, and which was also one of severe injury by a railway train, the kidneys were both diseased. The right was larger than the left and looked swollen, and its colour was dull and opaque with a yellowish cast. All its vessels, arteries as well as veins, were obstructed by ante-mortem clots. The left kidney was affected like the right, but only in a part of its structure. The microscope showed that the inter-tubular stroma of the diseased parts of the kidneys was charged with finer or larger fat-molecules. In this case, as in Mr. Poland's, there was fracture of the lumbar vertebræ. Dr. Moxon draws attention to the fact that obstruction of the renal vessels was found in two cases accompanying injury to the spinal column in the region corresponding with the position of the kidneys, and he then discusses the probable cause of the obstruction under these circumstances, but remarks that an extensive disease of the kidneys from

such a cause is exceedingly rare, and even when it does occur, it is almost always as an accident in heart disease, due to embolism of the artery by fragments from ulcerating cardiac valves. In the cases mentioned in the paper the pathological condition was *thrombosis*, and not *embolism*, and Dr. Moxon draws a distinction between these two conditions, which he thinks are sometimes confounded with one another by some writers.

ART. 36.—*On Presystolic Murmur.*

By HYDE SALTER, M.D., Physician to Charing Cross Hospital.

(*The Lancet*, October 23 and 30.)

Dr. Salter gives the following points as the sum and substance of a lecture delivered at Charing Cross Hospital:—

That mitral constriction has no special immunity from murmur.

That the murmur to which it gives rise is individual and characteristic.

That it differs from all other cardiac murmurs in the time at which it occurs—immediately before the first sound of the heart.

That it is, from this circumstance, peculiarly easy to identify.

That it is a very common murmur.

That it is accompanied by thrill and associated with hæmoptysis to a degree greater than any other murmur.

That it probably remained so long unrecognised partly from being confounded with systolic murmur, and partly from mitral constrictive murmur being supposed to occur at the diastole.

ART. 37.—*On Functional Valvular Disorders of the Heart.*

By Dr. DA COSTA.

(*American Journal of the Medical Sciences*, July.)

Dr. Da Costa discusses the following questions. “Are there functional cardiac murmurs occurring in persons not anæmic, and, therefore, closely simulating organic valvular troubles?” and, again, “What is the origin of such murmurs, and what means have we to prevent ourselves being deceived? 1st. Do such murmurs happen at the base?” Da Costa has met with very few instances where an aortic murmur seemed to belong to the category alluded to. In these the murmur was generated during excited action of the heart, was soft, was not propagated into the arterial system, occurred with contraction of the ventricles, was followed by a distinct second sound, and did not last. At and near the orifice of the pulmonary artery, also, murmurs are found which are not associated with organic change of the valves or in the vessel, which may be due to constriction by surrounding altered pericardial or pulmonary structure, or again be inconstant or purely functional. 2nd.

With regard to the auriculo-ventricular openings. As regards the tricuspid orifice, a murmur at or near the ensiform cartilage has never, in Da Costa's experience, been of this kind in a healthy heart, but such a murmur may be produced in a dilated heart without valvular disease. Such murmurs, on the contrary, are pre-eminently common at or near the apex beat in the situation of mitral murmurs. A murmur of this kind is more likely to be heard at the apex, or somewhat above the apex, than is a murmur depending on the condition of the blood; it differs from organic mitral murmur partly by the peculiarity of seat just mentioned, partly by its non-diffusion, its absence at the back of the chest, and its greater want of harshness. Dr. James Andrew, in discussing these systolic blowing sounds, lays stress on the want of intensification of the normal second sound of the pulmonary artery. Da Costa has notes of fifty cases, and can in a general way subscribe to the correctness of this opinion. In a number of cases the second aortic sound was clearer and better marked than the second sound of the pulmonary artery, but in a few cases he found the reverse. A more valuable sign, though subject to exceptions, is the not finding the murmur audible at the back or near the lower angle of the scapula. But the author thinks that the most valuable sign is the localisation of the murmur, which he says is not an apex murmur strictly speaking, but occurs rather above the apex, over the body of the left ventricle. "The third interspace is the point at which it is very apt to be most marked; from there it extends faintly to the second interspace on the left side, in some cases distinctly enough to make one believe in its seat being the pulmonary artery. It may occupy the whole of the first sound, but it more commonly does not, and at the apex, this, or a portion at least of this, is almost sure to be detected. In only about the proportion of three instances out of fifty did I find that it was audible at the right side of the sternum towards the aortic cartilage, and in one of these it was only audible with a double stethoscope." Synchronous with the first sound or impulse, it is generally soft or at a low pitch. In some cases it is rendered louder and harsher by pressure; it is modified by the respiratory acts. These murmurs the author has met with in healthy-looking persons without anæmia; but in many the heart's action was frequent, in many it was irregular. The maladies with which it is associated, the state of the heart giving rise to a functional murmur, are all those in which deranged action of the organ occurs sympathetically, as disorders of the digestion or of the uterus; in perverted innervation of the heart in diseases of the brain. The author has met them in diphtheritic paralysis, and frequently in those respiratory affections in which decided obstruction in the pulmonary circulation occurs—*e.g.* tubercular infiltration, asthma, pneumonia. He believes that they are commonly mistaken for signs of valvular disease. During the American war he states that a number of soldiers got their discharge who turned out to have merely murmurs of this kind. Murmurs from temporary excitement of the heart are not uncommon. He thinks that such a murmur might be produced by excitement in at least one out of twenty healthy persons. The author discusses at considerable length various theories of the mode of production of these functional murmurs. His paper is illustrated by twelve cases.

ART. 38.—*Some remarks on Tricuspid Regurgitation and Mitral Presystolic Bruits, with Case.*

By HENRY G. SUTTON, M.B.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

The murmurs which form the subject of this paper are considered by Dr. Sutton to be far more common than is generally believed; both are not infrequently met with, and in the case of the pre-systolic murmur, he believes it to be one which is very commonly presented to the physician's notice. The tricuspid regurgitant murmur is usually heard with the greatest intensity over the ensiform cartilage, but sometimes it is heard loudest a little to the left of the sternum; it is distinguished from the mitral murmur by not being heard at the angle of the left scapula. Dr. Sutton describes some cases illustrating the existence of a tricuspid regurgitant murmur, both from his own practice and from that of others, and in the post-mortem examinations it was found that the right ventricle was much dilated and hypertrophied, but there was no special disease of the tricuspid valve. There was also in many of the cases chronic disease of the lungs, and in two there was contraction of the mitral orifice. Dr. Sutton considers that the regurgitation through the tricuspid valves was brought about by the great distention of the right ventricle, which was so dilated that the valves could not close the orifice, and this condition was produced by the pulmonary or mitral disease alluded to, or, in one case, by chronic emphysema. In reference to the pre-systolic bruit, Dr. Sutton, after alluding to papers already written on the subject, relates a case which came under his own notice, in which this bruit existed, and in which the post-mortem examination showed a contracted mitral orifice, with induration of its walls. He has met with twelve cases of pre-systolic bruit during the last two years, and he agrees with Dr. Gairdner that it is the simplest of all murmurs to define.

ART. 39.—*Reduplication of the Sounds of the Heart.*

By A. GEIGEL and P. GUTTMAN.

(*Verh. d. Würzl. Med. Ges. N. F.*, 1, 2, p. 49, 1868; *Virchow's Archiv*, p. 105; and *Archives Générales de Médecine*, June.)

It has been asserted that reduplication of the second sound of the heart possesses no importance in prognosis or diagnosis. According to Geigel, this symptom is, no doubt, occasionally observed, although at long intervals, amongst healthy subjects; but it is constantly found in a series of patients who suffer from mitral narrowing and insufficiency. The majority of such patients are middle-aged, thin, anæmic, and have suffered for a long time from cardiac affection. In these cases, a reduplication of the diastolic sound may be generally heard at the situations where the tricuspid orifice, the aorta, and the pulmonary artery are auscultated. The two diastolic sounds are more intense over

the aortic and pulmonary orifices than over the mitral; the second diastolic sound is also more marked over the situation of the pulmonary orifice than over the situation of the aortic. We may explain the reduplication of the diastolic sound by assuming a non-simultaneous occlusion of the semi-lunar valves of the aorta and of the pulmonary artery; the valvules of the latter shutting an instant after the valvules of the former. Hence it is that the second diastolic sound is more accented over the situation of the orifice of the pulmonary artery than the first. The retardation of the closure of the pulmonary valves is due to the left ventricle ridding itself rapidly of its blood, whilst the right, gorged with blood, empties itself more slowly. Also the aorta retracts more energetically and more rapidly than the pulmonary artery, the elasticity of which diminishes day by day in proportion as the engorgement of the right heart increases. A constant reduplication of the second sound of the heart may serve as a diagnostic sign of mitral narrowing or insufficiency; but reduplication of the second sound of the heart may also be produced in any case in which engorgement of the right heart and dilatation of the pulmonary artery exist. In the latter case the symptom will not be so constant as in that of valvular alteration. Reduplication of the second sound is also observed in young robust people attacked with tuberculosis, in the emphysematous, in pleurisy, and in fatty degeneration of the heart.

Guttmann, without denying the assertions of Geigel, attributes much less importance to the sign in question. He does not admit that reduplication of the second sound of the heart is an habitual sign of mitral contraction. On the contrary, he regards it as a sufficiently rare phenomenon, never constant, and only to be observed where the patient is in a state of complete repose. When the heart's activity is thoroughly called into play, the reduplication disappears.

ART. 40.—*Sea-air and Heart-disease.*

By ALFRED HAVILAND.

(*The British Medical Journal*, July 17.)

At a meeting of the Ladies' Sanitary Association, held on July 2nd, Mr. Alfred Haviland read a paper on "Sea-air and Heart-disease." Dr. Farr presided.

Mr. Haviland commenced by saying that his paper was the second chapter on the Geographical Distribution of Heart-disease in England and Wales; the first having been read last year at Birmingham, before the Social Science Congress, on which occasion he showed that neither geological site, water-supply, temperature, occupation, food, clothing, nor hereditary tendency, so far as the present generation is liable to be predisposed to heart disease from its Scandinavian, Saxon, or its Celtic origin, would account, as general causes, for the strange geographical groupings of the proportional mortality from the disease under discussion.

The statistics of heart disease, which his maps illustrated, were the

result of large numbers, 236,973 deaths from this cause; and the period embraced ten years—1851-60. The author's present object was to show how the mortality from this cause was influenced by propinquity to the sea-coast and the ventilation of the country by the means of the great natural inlets which admitted into the Midland districts the prevailing sea-winds. The average annual number of deaths to every ten thousand persons living was 12·7 throughout England, and this number he made the standard of comparison. All districts, or groups of districts, having a mortality *at* or *below* this number, were coloured *red*, and all *above* it *blue*. The map of England and Wales so coloured plainly showed, first, that the *red* or *minus*-average districts predominated along the coast-line, and secondly, that they stretched inland wherever an inlet presented itself, which was in the axis of the prevailing winds and the incidence of the tidal wave. The east coast, with its three great inlets of the Humber, the Wash, and the Thames, and comparatively low coast, had a mean mortality of 11·0, or 1·7 below the general average. The western coast, with its great inlets of the Bristol Channel, Cardigan Bay, the estuaries of the rivers Mersey and Dee, Morecambe Bay, and Solway Frith, besides the innumerable inlets along the courses of the Welsh rivers which flow into the St. George's Channel and the Irish Sea, had a mortality of only 10·4, or 2·3 below the mean; whilst the south coast, which was characterised by precipitous cliffs, by having no great inlet, and the mouths and courses of its rivers, as a rule, *at right angles to* instead of *in the axis* of the tidal wave and prevailing winds, had a relatively high mortality, being 13·3, or 0·6 above the mean. Again, when the coastal are compared with the inland districts, a remarkable contrast presents itself. For instance, if a line be drawn from Berwick to the Isle of Purbeck, corresponding to the 2° west longitude, it will cut through thirty-two *plus* average districts out of a total of forty-four—the mean mortality of which is 16·0 or 3·3 above the average—in other words, an increase in the number of deaths to the extent of more than one quarter, a rate which would, in round numbers, have represented in the ten years sixty thousand more deaths than actually took place, had the mortality not been modified by the *minus* average districts along the coast and up the great inlets from the sea. The author then proceeded to show that the geographical distribution of heart disease taught us on a grand scale the direct advantages of free and unobstructed ventilation; a fact that would recommend itself to an association which had done so much towards the extension of practical hygiene, by the publication of cheap and valuable works on the necessity of thoroughly ventilating our dwellings. Having already given a general idea of the coast line, Mr. Haviland drew attention to the inland *minus* average or *red* groups, which, without exception, follow the courses of the great sea-inlets; some of these penetrate many miles inland, whilst others stretch from one side of England to the other, forming broad belts of red groups which stand out in remarkable contrast to the surrounding *blue* districts which are characterised by a high mortality. 1. A great horizontal belt stretches across England, from the Irish Sea to the German Ocean, and is uninterrupted by a single *plus* average district; on the west, it follows the course of the river Ribble to its source, and receives the full in-draught of the westerly gales; on

the east, it follows the river courses of the Humber, the Ouse, the Wharfe, and the Aire to their sources, and receives the full afflatus of the south-easterly winds which blow over the German Ocean; the mean mortality of this belt is 11·3, or 1·4 below the general average. 2. The next great inland group extends inland from the estuaries of the Mersey and Dee, along the red sandstone vale of Shropshire and Staffordshire, until it meets the Severn and Avon group, which it joins, and with it and the *red* minus average districts along the coast of Wales, completes a remarkable *red* cordon around the great *plus* average group of Herefordshire, Worcestershire, Shropshire, and Brecknockshire. This group receives the full afflatus of the north-west wind, which, when it prevails, sweeps up this vale, which is also influenced by the flux and reflux of the sea and land breezes during the summer. The mean mortality of this group is 11·0, or 1·7 below the average. 3. The next is the Severn and Avon inland group, which runs up the course of these rivers from the Bristol Channel to the centre of England, whence it joins the inland group of the Wash, and thus forms a diagonal belt of low mortality from sea to sea. Through the Wash this extensive area is ventilated by the north-easterly winds, and through the Severn and Avon by the south-westerly, which blows up the Bristol Channel, besides enjoying the bidiurnal change consequent on the flux and reflux of the tidal wave and the sea and land breezes in the summer. The mortality along this group is 11·9, or 0·8 below the average. 4. The next great inland group of minus average districts is that of the Thames, which extends from the coasts of Essex and Kent to Kingston in Surrey, and has a mean mortality of 11·1, or 1·6 below the average. In this group we see the great influence of the sea-winds, which are guided up the river by the hills which flank its banks, and of the bidiurnal change of air consequent on the tidal flow and ebb. In conclusion, the author urged the necessity of our availing ourselves of the great practical lesson taught us in these facts, by making practical use of them in the construction and reconstruction of our streets, the ventilation of which is of such paramount importance to the public health. He strongly pointed out that, as the inlet of the Thames is the great source of health to London, we should be very jealous how we allow its embankment to be encumbered by public buildings, which must act as barriers to the genial influences of the tides and the prevailing winds which sweep over the river, and would, if allowed to do so, blow up the innumerable narrow streets to the north of the Strand and cleanse them of the air-sewage which hangs about the alleys, the *culs-de-sac*, the quadrangles and narrow streets of that wretched group of districts.

The author exhibited a coloured map of London, which showed that the mortality from heart disease was greatest in those districts which were prevented from having their streets flushed by the prevalent winds on account of the defective plan of the streets, which were so built as to exclude the healthful influence of our natural street flushers.

Instead of building upon the banks of the Thames, it would be more in accordance with the practical science of the present day, and the dictates of common sense, to provide inlets to admit fresh air to the densely populated districts which, from the defective arrangement of their streets, are now excluded from it. Street-ventilation is a subject of great impor-

tance, and can only be only carried out successfully by studying the several elements of our climate, and especially the *direction* and *force* of the prevailing winds; we have an accumulation of facts and statistics upon this subject, let them be used for what they were originally intended—the public good.

Let the London people enjoy their river, the source of their health and wealth, and have its banks clothed with green sward and shady trees, which will prove a finer sight from the river than any architect can rear.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 41.—*On Uræmic Diarrhœa.**

By J. MILNER FOTHERGILL, M.D.

(*British Medical Journal*, August 28.)

The writer commenced by alluding to the power possessed by the secreting cells of certain excretory organs, of not only appropriating their own peculiar materials, but of eliminating other materials when in excess. As an example, the kidneys in some cases of jaundice excreted biliary matter; and all were aware of the capacity of the intestinal canal to supplement the kidneys. He then drew attention to the diarrhœa frequently accompanying chronic renal disease, advancing the view that it was to be regarded as a salutary action, freeing the blood from effete products, and relieving the kidneys of their work. It was rather a compensatory or vicarious excretion than a morbid process. After illustrating his view by several cases, he urged strongly that the treatment was not to arrest the alvine flow until some other channel be patent. The rational treatment, he contended, was to act freely on the skin, and to restore the action of the kidneys, and not only to arrest the diarrhœa by the use of powerful astringents when the renal action was re-established, or the diarrhœa was in itself likely to prove fatal. Afterwards, the action of the skin must be fostered, and the patient protected from atmospheric changes, and treated with iron and other adjuncts to nutrition.

ART. 42.—*On Instantaneous Death caused by the Passage of Aliments in course of Digestion from the Stomach to the Air Tubes.*

By Dr. ACHILLE FOVILLE.

(*Archives Générales de Médecine*, Juillet.)

1. Death may be produced in an instantaneous and really striking manner by the passage of alimentary material in course of digestion, or of chyme, from the stomach into the air tubes.

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July 27th, 28th, 29th, and 30th.

2. It is possible that this accident is sometimes caused, as Mérat holds, in the following manner:—At the moment when the mouth is filled with vomited material, an inspiration takes place, which withdraws a portion of this material into the trachea: this mechanism, however, does not seem to account for every case.

3. There are other instances in which, at the very moment when the elementary material is rejected from the stomach, the posterior orifices of the mouth and the nasal fossæ are closed hermetically by the spasmodic contraction of the muscles, which act during deglutition, whilst the opening into the aerial passages remains free; then the food is driven into the last with so much force, and in such great quantity, that it causes a sudden and absolute suppression of respiration, and consequently sudden death.

4. This muscular occlusion of the posterior orifices of the mouth, and of the nasal fossæ, may take place in energetic voluntary efforts, and during the initial stage of an access of epilepsy. Thus many of the subjects, with whom sudden death occurred in this manner, were in one or the other of these two conditions at the time when they succumbed.

ART. 43.—*On Peri-umbilical Inflammation in Tuberculisation of the Peritoneum.*

By Dr. EMIL VALLIN.

(*Archives Générales de Médecine*, Mai.)

1. In certain cases of tuberculisation of the peritoneum, one observes in the neighbourhood of the umbilical scar redness and indolent œdema of the skin, which may exist for a period varying from one to two months; by the absence of shooting pains, of tenderness on pressure, fluctuation, and concomitant febrile reaction, these cases are distinguished from those in which phlegmon of the abdominal walls exists.

2. These symptoms may be the early indication of an umbilical perforation; at other times they may be seen to disappear slowly in one of the periods of remission of the chief malady almost unnoticed by the patient, but not without presenting serious diagnostic and prognostic indication.

ART. 44.—*A Case of Bursting of a Varicose Spleen.*

By Dr. COHNHEIM.

(*Virchow's Archiv, Medizinische Jahrbücher.*)

A man, twenty-seven years of age, was under treatment for several months, on account of some rather obscure symptoms. During the last three days of life he complained of a stitch in the left side. Shortly after a meal the patient suddenly fell down with a cry of anguish, and in a few moments was dead. On post-mortem examination there was

found in the peritoneal sac, especially in the left hypochondrium, a quantity of sanguinolent fluid, and some well-coagulated cruor. The spleen was six inches long, five inches broad, and two inches thick; the surface was uneven, and presented numerous rounded prominences of a dark blue colour; and on one of these was found a rent about three-quarters of an inch in length, which was filled with clotted blood. On section, the spleen was found to be filled with irregular and compound thrombus masses, both old and recent, filled with coagula, varying from the size of a pea to that of a goose's egg, and containing a number of cavities which communicated with each other. In the course of one of the largest of these ectasiæ was found the external rent. These cavities possessed smooth venous walls; at a few spots only was the surrounding tissue formed of broken down pulp. The splenic parenchyma was tolerably firm, of a greyish red colour, and presented large and numerous follicles. On one branch of the arteria canalis, near the helix, was seated a small aneurism of the size of a bean; this, however, did not communicate with any of the blood cavities in the interior of the spleen. Into these cavities could be followed branches of the veins, and the microscopical structure of these walls indicated that one had to do with an instance of phlebectasis. Similar but smaller phlebectases, in connexion with branches of the portal vein, were found in the right lobe of the liver, close under the upper surface. The remaining organs of the body were normal, and gave no holding point for the explanation of the venous enlargement.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 45.—*On the Early Indications of Nephritic Irritation.*

By G. OWEN REES, M.D., F.R.S., Physician to Guy's Hospital.

(*Guy's Hospital Reports*, vol xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Rees pointed out many years ago that in albuminuria the extractive matters of the blood always accompanied the albumen; that under some other conditions the extractives of the blood appeared in the urine without albumen, and that the presence of the abnormal ingredient was determined by testing with tincture of galls. But the points left undetermined were—whether the extractives remained in the urine after the albumen had entirely disappeared, and whether the extractives might not be present before albumen appeared? If the latter point should be answered in the affirmative, then an important warning might be given of the approach of Bright's disease. Dr. Rees now gives three cases in which the presence of extractives was ascertained by the test of tincture of galls, and in one of which albumen was afterwards discovered. In the other two cases, although the general symptoms pointed to albuminuria, no albumen was found in the urine, and, probably, the warning given averted the supervention of serious disease. Dr. Rees suggests that the urine should also be tested for blood extractives in Addison's disease, and he hopes to make some observations hereafter on that subject.

ART. 46.—*On Septicæmic Nephritis.*

By Dr. FISCHER, of Breslau.

(Gazette Hebdomadaire, No. 41, 1869.)

The author establishes the connexion which exists between acute nephritis and putrid suppuration. Dr. Fischer has noticed this complication in all the forms of severe anthrax and in diffuse phlegmon. Injections of putrid pus on a dog gave rise to hæmorrhagic nephritis, which disappeared after a short period of repose, but the animal died when the experiment was recommenced. The author thinks that he can conclude that nephritis in anthrax and phlegmon is the result of the septic action exerted upon the kidneys by the purulent mass absorbed, which is in a state of acid fermentation. On distilling the altered pus Dr. Fischer obtained a large quantity of fatty acids, especially butyric acid. A new series of experiments was then made, in which butyric acid with water was injected into the veins of dogs. The result confirmed those which had been previously obtained by Dr. O. Weber; a lowering of the temperature was constantly produced. Between this fact and the elevation of the temperature of pyæmic patients there is a contradiction. This, however, is explained by the conditions of septicæmic fever; together with butyric acid are absorbed pyrogenic substances, and the lowering of temperature cannot be manifested. Elevation of the temperature may be observed, if, during the experiments we inject together with the butyric acid the products of suppuration from a wound in the first stage of phlogosis.

ART. 47.—*Diabetes Treated with Carbonate of Ammonia administered largely.*

By F. W. PAVY, M.D., F.R.S.

(British Medical Journal, June 26.)

From the facts of the case related by Dr. Pavy, it would seem that the carbonate of ammonia (100 grains dissolved in a pint of water, and taken during the course of twenty-four hours) exerted a controlling influence over the disease.

ART. 48.—*Lime-water in the Treatment of Bright's Disease.**(Medical Press and Circular, July 28.)*

Küchenmeister recommends, in the treatment of Bright's Disease and of nephritis after scarlatina, the use of large doses of lime-water, theoretically from its having the property of dissolving proteine. *Lyon Médicale* details the treatment, and says that caustic lime in solution, or any of the soluble salts of lime, will answer equally well. He has seen the urine increase from 30 grammes to 120 the first day, 180 the

second, 300 the third, and up to 1020 the seventh day under this influence; sometimes a slight hæmorrhage necessitates the disuse of this treatment; but the quantity of albumen in the urine sensibly diminishes.

ART. 49.—*On a purely Milk Diet in the Treatment of Diabetes Mellitus.*

By ARTHUR SCOTT DONKIN, M.D., Lecturer on Forensic Medicine to the University of Durham, and Physician to the Sunderland Infirmary and Dispensary.

(*The Lancet*, October 23.)

During the last three years Dr. Donkin has, in certain diseases, put the milk treatment, *methodically persevered in*, to the test of direct experiment, both in hospital and private practice; and with success much beyond his own expectation. The author records two cases of diabetes mellitus in which the disease was far advanced and the symptoms fully developed. In the one the patient was *rapidly* restored to a condition of health and strength, a little sugar only remaining in the urine to show that the disease was not completely eradicated. In the other, however, *the cure was rapid and complete*. Dr. Donkin claims to be the first who has treated and cured this disease by an exclusively milk diet.

ART. 50.—*Treatment of Diabetes by Peroxide of Hydrogen.*

Under the care of Dr. CLIFFORD ALLBUTT.

(*The Lancet*, July 31.)

The great hopes which were entertained of the action of this remedy seem to be fading away. Dr. Allbutt has given the solution of peroxide of hydrogen and the so-called ozonic ether a long and careful trial in four cases of diabetes; but the want of success in each case has deterred him from submitting any more diabetic patients to the same useless procedure.

The four cases were chosen as representing four degrees of severity of the disease. The patient who was taken as an example of the extreme stage, was treated with increasing doses of peroxide of hydrogen for six weeks. No good effects were noticed, and the patient died a short time after the discontinuance of the medicine.

Two of the cases were in private practice, and two were in the infirmary. The therapeutic experiment was carried out in the infirmary with great care. The two patients were taken in at the same time, and their weights, quantities of urine, amounts of water drunk, and specific gravities of urine were taken daily. For about ten days they were placed on an ordinary diet (some restriction in the quantities of potatoes and bread only being made), and the daily variations noted. The peroxide of hydrogen, the purity of which was guaranteed, was then

given in increasing doses, until the two patients were taking half an ounce of the liquor every six hours. In one the slight daily decrease of weight was arrested for a day or two; but this was apparently accidental, as it soon recommenced. It was intended to publish the columns containing the daily weight, water drunk, urine passed, and specific gravity; but as no important variations were seen in them on administration or withdrawal of the medicine, it seemed unnecessary. Both patients improved subsequently on carbonate of ammonia and restricted diet, though one of them, as stated, ultimately died. The peroxide of hydrogen was given for about two months in each case.

ART. 51.—*Prognosis in Bright's Diseases.*

By AUSTIN FLINT, M.D.

(*The Medical Record*, July 15.)

At a meeting of the Medical Society of the County of New York, Dr. Flint read a paper on the above subject. After a discussion of the elements which enter into prognosis in general, showing that this must draw upon every department of medical knowledge, the speaker proposed to consider the prognosis in Bright's diseases: 1st, with reference to the different renal affections constituting Bright's diseases; 2nd, with reference to their symptoms and complications; and 3rd, with reference to their treatment.

1st. *The Different Affections.*—The doctrine that the various lesions of the kidney, formerly comprehended under the term *Bright's disease*, are but different phases or modifications of one affection, is now nearly abandoned. We have come to speak of Bright's *diseases*, and the question now is, How many and what are the different affections to which this name has been applied? To answer this question completely is, perhaps, at present impossible; and this is not strange when we compare the history of renal pathology with that of the pathology and diagnosis of pulmonary diseases for example; when we recollect that it is but lately that pneumonia, bronchitis, and pleurisy were confounded. But considerable progress has been made in the differentiation of renal affections; and, without canvassing disputed views, the five following may be enumerated as having their individuality as well established as the present state of our knowledge admits; (a) inflammation within the convoluted tubes, called by Johnson "desquamative nephritis," and by Dickson "tubal nephritis;" this, like other inflammations, may doubtless be acute, subacute, or chronic; (b) the "smooth white kidney;" (c) the fatty kidney; (d) the fibroid, contracted, atrophied, or cirrhotic kidney; (e) the waxy, lardaceous, or amyloid kidney.

With regard to prognosis these five affections widely differ. Desquamative nephritis may, and perhaps commonly does, end in recovery, leaving the structure of the kidneys intact. But it probably sometimes leads to the smooth white kidney, and perhaps also to the fatty kidney. Whether recovery from either of these conditions ever occurs, it is impossible to say; but it is "highly probable that, having progressed to

a certain extent, the morbid process or processes, whether inflammatory or not, which these diseases involve, may cease, and retrogression take place, leaving at length the organs, if not intact, not damaged enough to compromise seriously their functional capacity. . . . The cirrhotic kidney must be regarded as involving a permanent lesion; . . . but even this may cease to be progressive, after a greater or less amount of damage, and recovery be possible in the same sense as recovery from tuberculous disease of the lungs is considered as having taken place, that is, the morbid processes cease, and there are no longer any symptoms of disease, but the functional capacity of the organs is more or less impaired." The waxy kidney is of less practical importance, being so rare. It is possible that its peculiar lesion may disappear, or at all events become non-progressive, leaving the kidneys with functional capacity sufficient for life and even for health.

The prognosis, then, is by far the most favourable in desquamative nephritis, and decidedly the gravest in the cirrhotic kidney. Hence the importance of an accurate differential diagnosis. But it is not always possible even to diagnosticate desquamative nephritis; nor can we determine, in the case of the other four affections, whether the amount of damage suffered is incompatible with comfortable health for an indefinite period.

In an analysis of one hundred and three cases, mostly observed and recorded by Dr. Flint himself, there was good ground for believing that in twenty-two recovery took place. In several of these twenty-two cases it was quite certain that the disease was tubal nephritis; but in others of them there was room for supposition that there were other lesions which had ceased to progress. This analysis illustrated in a marked manner a very important point, "the ability of the system to tolerate Bright's diseases when they are progressive as well as when they are stationary." Many of the hospital patients had been discharged, feeling well enough to return to their toilsome vocations. In many cases the patients had continued to labour for weeks and months after the appearance of œdema of face and limbs. Of fifty-three cases, whose previous history showed no antecedent disease, in thirty the general health was apparently good up to the special manifestations of renal disease, that is, either dropsy or uræmic phenomena. In six of these thirty cases, uræmic coma or convulsions constituted the first special manifestations. Two of them were related at length, and these conclusions drawn: (a) "Coma and convulsions may occur when the health, to all appearance, is good, the disease destroying life, as it were, by a sudden explosion. The most frequent disease in such cases, undoubtedly, is the contracted kidney. (b) Renal disease may exist for a long period, that is, for years, without giving rise to any notable manifestations, and without compromising apparently the general health."

2. *Symptoms and Complications.*—"The ability of the system to resist and recover from any important affection is more or less impaired by its occurrence in connexion with Bright's diseases." It therefore becomes important in the prognosis of such affections to determine whether or not renal trouble exists, perhaps in the latent form. For this we must rely upon the urine; and in considering its testimony it is to be remembered that albuminuria may exist, without indicating any of

Bright's diseases, and also that one or more of these may exist, though rarely, without being indicated by albuminuria.

As to complications, observation has shown that the serous inflammations, pleurisy, pericarditis, peritonitis, and meningitis may be caused by Bright's diseases; and that when so caused they are commonly fatal, with the exception of pleurisy, which is itself far more dangerous than when occurring as an independent affection. There are strong reasons for believing that "simple hypertrophy" of the left side of the heart is an effect of renal disease; and that in this connexion, as in the case of hypertrophy dependent on valvular lesion, it is probably conservative, and so does not render the prognosis more unfavourable. Valvular lesions can hardly be charged to the account of the kidneys. When they coexist with renal disease, their own evils and dangers are to be added to those of the renal trouble.

As to symptoms, uræmic coma and convulsions always involve great immediate danger, sometimes destroying life in a few moments. Yet the patient may survive them, and make a complete recovery from the renal disease; or if this disease progresses, still "the attacks may recur after long intervals, during which there may be an appearance of recovery, inclusive even of the disappearance of albumen and tubular casts from the urine." Uræmic vomiting and purging betoken danger of coma and convulsions; they also involve danger from innutrition and asthenia, which may even prove fatal. Dropsy is not of itself a specially unfavourable sign, but it may become so if persistent and returning speedily after removal, particularly if associated with great anæmia and prostration. In certain situations it of course involves great immediate danger, as in œdema of the lungs and of the glottis. As a rule, in proportion as general dropsy is great, the urine contains albumen in abundance. But there seems to be no constant relation between albuminuria and the uræmic phenomena. That there is a relation between these phenomena and the amount of urea excreted, there can be no doubt. But our data are as yet insufficient to establish any fixed rule with reference to this relation.

3. *Treatment.*—That the prognosis, in many diseases, depends greatly on our power to control them by treatment is evident. How is it with Bright's diseases? We have no specific against them; but we may unquestionably sometimes postpone or prevent their worst effects—uræmic coma and convulsions, with their terrible dangers—by therapeutical interference. We may save a patient, otherwise doomed to die within a few hours, by the energetic use of hydragogue purgatives, elaterium being incomparably the best, and by the hot-air or vapour bath. The elaterium is no less valuable in the symptomatic hydrothorax and pulmonary œdema.

"The first great object of treatment of the Bright's diseases which involve structural lesions of the kidneys is the arrest of their progress. The next great object is the retardation of their progress. And when these objects are beyond the resources of medicine, a great object still remains, namely, to secure for the longest possible period, and as completely as possible, the tolerance of these diseases. Of course the prognosis is affected favourably in proportion as these several objects lie within the grasp of treatment." As we have no specifics, and even the

palliative cathartics and diuretics may do harm rather than good if persisted in, our general treatment resolves itself into that which places the system as a whole under the best conditions. A great part of this will be hygienic, and the most important considerations relate to climate. Dickinson's statistics show that the ratio of deaths from renal disease to the total number of deaths is, in London, 1 to 49; in Paris, 1 to 266; while in Bombay it is 1 to 2800; and in Genoa 0 in 4303. The records of the hospital in Milan give 1 case of dropsy with renal disease to 2807 admissions; those of St. Mary's Hospital, London, 1 to 31. The statistics of the British army show the proportion of deaths from renal disease notably greater in temperate climates than in either tropical or cold ones. These facts warrant the expectation in cases of chronic Bright's diseases occurring in temperate climates, that arrest of the diseases, or retardation of their progress, as well as increased and prolonged tolerance of them, may often be effected by a timely change of climate." It is very desirable to collect cases showing the results of such change. As Paris and London offer so marked a contrast, it is possible that changes not involving removal to great distances may prove very serviceable.

Dr. H. Knapp referred to the importance of retinitis as a prognostic sign in Bright's diseases. It was commonly stated that retinitis occurred only in the advanced stages of the renal affection, and this was true of the vast majority of cases; but sometimes it presented itself even in the early stages, so that the ophthalmoscope might determine the diagnosis months before any thoracic or cerebral symptoms appeared. In many cases the engorged veins would diminish in size, as also the exudations and hæmorrhages and spots of fatty degeneration; but relapses were almost sure to occur, so that, where retinitis existed, it was pretty safe to predict a fatal result. Yet exceptions to this rule were to be found, and the doctor had met with some in his own practice. One patient, whom he had found affected with retinitis in 1862, and had supposed long dead, turned up five years later in full health. Another, a man forty or fifty years of age, had Bright's retinitis in one eye, and said that he had recovered from a similar attack in the other eye some eight years before. The multiplication and peculiar contortion of the retinal vessels, as exhibited in these two cases after recovery, the speaker had never seen paralleled.

ART. 52.—*Diabetes in a case of Tumour of the Medulla Oblongata.*

By J. B. DOMPELING, M.D.

(*Medical Arch. von Geneestr.*, 1868, iv.; and *Archives Générales de Médecine*, Mars, 1869.)

Dr. J. B. Dompeling reports the case of a patient who met with a fall on the back of the head when about fifteen years of age. Since that time he suffered from sharp pains in the head, and in the back of the neck; the lower limbs became considerably enfeebled, and there was diplopia. During the space of some years paresis of the limbs of the

right side became established with marked blunting of tactile sensibility; sensitiveness to heat was augmented; all the muscles of the right eye were paralysed; at the same time symptoms of diabetes appeared. The urine contained from five to seven parts per cent. of sugar; this proportion diminished during a season passed at Carlsbad, but soon after the disease advanced, and was accompanied with fever and cough. The patient died suddenly six years after the first symptoms were observed.

After death, a tumour about the size of a small nut was found, occupying all the right half of the medulla oblongata. It was continuous with the medulla, not limited. It was formed by a fasciculated sarcoma. On its inferior surface were found two small vesicles filled with fluid, but containing no trace of cysticercus. The longitudinal furrow of the floor of the fourth ventricle was thrust to the left; the roots of the accessory nerve and the lower root of the pneumogastric were very atrophied.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 53.—*On Ekzema.*

By ERASMUS WILSON, F.R.S., Professor of Dermatology at Royal College of Surgeons.

(*Journal of Cutaneous Medicine*, July.

The following are the various predisposing causes arranged in physiological order, which, Mr. Wilson writes, may be alleged capable of giving rise to ekzema :—

Weakly parentage.

Errors of diet.

Errors of hygienic principles; namely, air, exercise, cleanliness, clothing, &c.

Vicissitudes of cold, heat, and moisture.

Transition of seasons.

Ungential climate.

Vaccination.

Dentition.

Excessive growth.

Deranged menstruation.

Excessive labour, mental and physical.

Mental disquietude, anxiety, affliction.

Sexual excesses.

Uterine, reproductive, and puerperal derangements.

Deranged digestion.

Exhaustion from disease.

Hæmorrhage.

Cachexia.

Gout and rheumatism.

Nervous shock and fright.

Local injury.

In determining the cause of a given disease, we have to consider the agencies which conduce indirectly, directly, and immediately to the result which it is sought to explain; or, in technical language, the predisposing, the exciting, and the proximate cause. Thus, if we take, by way of illustration, an instance of ekzema infantile, an error of diet may be the predisposing cause, friction of the skin an exciting cause, and hyperæmia, with exudation or desquamation, that is, ekzema, the proximate cause. The predisposing causes are in many instances only relative in their operation: thus an error of diet, besides being predisponent, may also be excitant; and the same may be said of hygienic principles, vicissitudes of temperature, and most of the others. Again, error of diet may be the predisposing cause, and cold or heat the exciting cause; and furthermore, with hereditary diathesis, acquired diathesis from weakly parentage, or errors of diet or hygienic principles as a predisposing cause, vaccination or dentition may become the exciting cause. In fact, in this as in most of the examples of medical philosophy, science is the servant of knowledge: science feeds the furnace and greases the engine, but knowledge is the acting mind, and directs the course and navigation of the ship.

The *exciting causes*, or such as directly excite the disease we are now studying, are the following:—

Local Group.

Cold,	Chemical irritants,
Heat,	Mechanical irritants,
Moisture,	Varicose veins,
Friction,	Traumatic injury.

Constitutional Group.

Unwholesome food,	Certain medicines.
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In concluding his elaborate article on this affection Mr. Wilson writes: "Looking to the many causes which contribute to render ekzema a more than usually chronic and inveterate affection; and taking into consideration the circumstance that it is necessarily a disease of tardy movement towards cure, prone to repeated and vexatious exacerbations and relapse, we may venture to deliver the general verdict—that ekzema is not dangerous to life, that it is always susceptible of mitigation, and generally admits of permanent cure."

ART. 54.—*On the Treatment of Ekzema.*

By ERASMUS WILSON, F.R.S.

(*Journal of Cutaneous Medicine*, October.)

The local treatment of ekzema, Mr. Wilson writes, may be summed up in a few comprehensive words:—*allay irritation, and restore the weakened tissues to the normal standard of health.* The most complete mode of allaying irritation is to exclude the atmospherical air without interference with the transpiration of the skin. The method of restoration of the skin to its normal health, is by the judicious use of stimulant

remedies. Stimulants when administered internally are termed tonics, so that the external treatment proposed for the corroboration of the tissues of the skin, is eminently *tonic*.

The oxide of zinc ointment, properly benzoated, and made of pure materials, pure oxide of zinc and pure lard, is the most perfect local application for ekzema at present known; and, indeed, is so perfect, that we doubt the possibility of its ever being excelled. It is suitable for every form and every stage of the disease, but most of all for the dry forms; and it should be applied in a twofold manner, namely, in substance with the point of the finger, or a thin spatula, or the hand, so as to distribute it uniformly over the diseased surface; and, spread on some soft material such as lint, cambric, or fine flannel. Employed in this way, the oxide of zinc ointment has all the advantages and most of the uses of the poultice, without the objectionable qualities of the latter, the dirt, the fermentation, the saturating moisture, and the decomposition. And it fulfils the purpose which it was sought to accomplish; it excludes the atmosphere without preventing transpiration; it keeps the surface upon which it is applied soft and flexible, and it gives nature time to effect the reparative processes needed by the skin. Sometimes the dressing, if the diseased surface be of small extent, may be kept in its place by strips of adhesive plaster; sometimes, and when possible this is always desirable, it is maintained in its place by the moderate pressure of a bandage either of elastic cotton or of Domett's flannel. But there are situations in which a bandage could not conveniently be applied, such as the face and the general surface of the body; and others in which a dressing of any kind would be objectionable, as behind the ears, in the axillæ, and in the region of the pudendum; and in all these cases we must trust to the reapplication of the ointment as frequently as it may chance to be rubbed off.

It may be laid down as an axiom of cutaneous medicine, that ekzema, in its active stages, should never be washed; one of the first instructions which you give to the mother of an infant suffering under ekzema infantile is to avoid washing the eruption; discharges may be absorbed by a soft napkin, adjacent surfaces may be wiped with a similar material, dirty ointment or loosened crusts may be lightly brushed away; but for the nonce no water should be employed. The office of the zinc ointment is to sheathe and protect the morbid surface; but it performs another and very important function, namely, that of creating an artificial layer, to take the place, for the time being, of the lost cuticle; and this concretion of the ointment should be studiously promoted by applying fresh and fresh ointment as often as that previously applied has become dried up, or has been accidentally wiped away.

When the dressings are properly applied, and adjusted with nicety, they should remain undisturbed for as long a period as possible,—say for twenty-four hours, or even longer. There are two regions of the body where the oxide of zinc ointment is unsuitable, namely, on the eyelids; for in that situation, getting upon the conjunctiva, it creates irritation, and gives pain; and on the scalp, where it would tend to mat the hair together, and prevent a necessary condition in the treatment of ekzema, namely, perfect cleanliness. In both these situations you should substitute the nitric oxide of mercury ointment for the zinc

ointment, diluted in the proportion of one part to three of benzoated lard.

Heat, itching, and pain the benzoated zinc ointment will generally allay; but if it fail to accomplish that purpose, there are certain agencies which you may superadd to your treatment, but always without disturbing, or with as little disturbance as possible to, the zinc ointment. For the relief of heat you may apply a spirit or ether lotion to the heated surface by means of a fold of cambric *more usitato*; for the relief of itching you may use, in a similar manner, an emulsion of bitter almonds, with hydrocyanic acid and spirits of wine; and for the relief of pain, you may employ a fomentation of poppy-heads. We believe that you will hardly need more at this stage of the disease.

If the bowels are confined, we may help them with a little magnesia and rhubarb, or manna, or castor oil; if he be emaciated, and exhibit a tendency to waste, we may check his prostration by cod-liver oil; but the one and almost indispensable remedy is the nerve-restorer, arsenic. Try two minims of the liquor arsenicalis three times a day in the combination known as our ferro-arsenical mixture. \mathcal{R} Vini ferri, \mathfrak{z} iss; Syrupi simplicis, \mathfrak{z} ijj; Liquoris arsenicalis, \mathfrak{z} j; Aquæ anethi, \mathfrak{z} ij; misce. One drachm will give you two minims of liquor arsenicalis. It may be administered pure, and just at the end of the meal, so as to be mixed with the meal in the stomach.

We now pass on to the second part of our proposition, namely, that after allaying irritation, which is equivalent to removing the local affection, we should aim at *restoring the weakened tissues of the skin to a normal state of health*.

When the inflamed skin underneath the pellicle of dried and concreted zinc ointment has healed, and a new and firm cuticle has formed, we may commence with the use of very gentle friction with the palm of the hand: if this moderate friction should occasion discharge, a little more zinc ointment will be necessary; of course not so much as at first, and with a different object, namely, that of simply moistening the parched and angry skin. The gentle friction may be repeated night and morning, and each time, if the skin will bear it, increased a little in force; and after the frictions the tender surface should be dusted over with some harmless powder, such as zinc with starch; starch alone; lycopodium, or simple wheaten flour. Then again, after a few days, a gentle washing with Castile soap may be attempted; at first with tepid water; then with cold water; and, later still, if this progressive method should prove successful, with a mildly stimulating soap, such as that of the juniper tar or of carbolic acid. It is important, moreover, that after the ablution is completed, the soap should be rinsed thoroughly off; and that the skin should be thoroughly dried with a soft towel, and that friction during the drying process should be avoided. In the beginning, after the drying of the skin is completed, the tender surface may be dusted over with one of the sheathing powders already mentioned, and, later on, when the skin will bear it, it may be left without any such protective covering, and simply guarded against rough friction and rough usage.

Another hardening process that may be adopted with the view of strengthening the skin is the use of soap with firm friction to the tender part, and subsequently sheathing it with the demulcent ointment. And,

again, a very valuable means, the employment of cold water in the form of a douche, projected by a garden syringe when no more convenient apparatus is at hand, or from the spout of a watering-pot or of a jug.

In the transitional and passive periods of ekzema, there is one symptom that is extremely troublesome, and that will demand all your ingenuity and care to mitigate, namely, pruritus; and pruritus is associated with a greater or lesser degree of infiltration of the skin, that we must use our best exertions to disperse. In fact, the pruritus, in a majority of instances, is a consequence of the infiltration, and therefore a radical treatment points to the necessity of removing the objective rather than the subjective, of the cause rather than the effect. When pruritus is a neurotic phenomenon, our best palliatives are, hydrocyanic acid and tar; when it depends on dryness and desquamation, the benzoated oxide of zinc ointment or a borax lotion may suffice; but for infiltration in various degrees, stimulant applications are necessary, ranging in strength from the mildest up to the strongest.

As an antipruritic, the lotion of emulsion of bitter almonds, twenty or thirty kernels to six ounces of water; dilute hydrocyanic acid, two drachms; and spirit of wine, fourteen drachms, is an admirable one, cooling and soothing at the same time. Sometimes borax may be made to take the place of the hydrocyanic acid, and the spirit of wine omitted; or the original lotion may be rendered stimulant by the addition of the perchloride of mercury, from one to two grains to the ounce. But this, *in limine*, with regard to the use of lotions; however agreeable they may be for the moment, they are all, unless they contain oil or glycerine, apt to leave behind them a certain degree of dryness, or perhaps add to the dryness they were intended to mitigate, for dryness of itself may be an incidental cause of pruritus. Hence, conjointly with the lotion, we recommend a smear of the oxide of zinc ointment or one of the milder stimulant ointments; that is to say, that as soon as the lotion is dried, a smear with the ointment should follow.

Borax is an antipruritic when it is combined with oil or glycerine so as to form an emulsion: thus, two drachms of borax, with six of benzoated oil or glycerine, and seven ounces of emulsion of bitter almonds, form an elegant and useful lotion; but glycerine is uncertain in its operation on the integument, and is sometimes, instead of being a sedative, an irritant to the skin. Our antipruritic resources are, as you will perceive, very limited: sometimes a solution of carbonate of soda, two drachms to the eight ounces; or of carbonate of ammonia of the same strength in camphor julep, is very soothing; or, tincture of opium with spirit of wine and camphor mixture; and sometimes we shall derive advantage from a lotion of sulphuret of potassium; or a diluted aconite liniment,

But a more potent antipruritic remedy, although at the same time stimulant, is to be met with in tar, with its hydrocarbon extracts, carbolic acid and kreosote. And we have nothing more competent to quell a raging pruritus than Hebra's famous lotion, composed of oleum picis juniperi,* sapo mollis, and alkohol, of each an ounce, diluted more or less considerably with water, a pint or even a half-pint. Carbolic acid

* Pyroligneous oil of juniper; or, huile de Cade; oleum cadinum.

and kreosote may be combined with distilled vinegar or glycerine, and used in a diluted form, one or two drachms to the half-pint; or with oil in various degrees of concentration.

There are two other morbid conditions which we have now to mention,—namely, infiltration giving rise to condensation and thickening, and nervous irritability. In moderate states of infiltration, the milder forms of stimulant remedies will be found sufficient; such as the nitric oxide of mercury ointment, diluted or pure; the citrine ointment, diluted or pure; or the ointments of tar and creosote. These remedies should be either well rubbed into the affected skin morning or night; or, the latter should first of all be well washed with the juniper tar soap, and then the ointments should be used.

The natural history of ekzema teaches us that severe pruritus generally precedes the excretion of a copious exudation from the skin, and that the exudation at once relieves the itching; this principle has been taken advantage of by Hebra, for the purpose of furnishing an additional remedy and an additional means of treatment; in a word, a remedy, which by application to the thickened and condensed skin, shall cause the infiltrated fluids to be poured out upon the surface in the same way that Nature performs the act in the ekzema ichororum. The remedy which Hebra recommends is the potassa fusa variously diluted, according to the effect that is intended to be produced. Very commonly he uses a solution of equal quantities of caustic potash and water, and we have pursued the same practice with infinite advantage; in fact, it may be truly said that some of the more condensed and hardened forms of ekzema will yield to no other means. The solution is painted on the surface by means of a sponge brush; the viscous ichor is seen to ooze forth from the thickened skin even in a few seconds; the bloated tissue-cells are made to disgorge their excessive contents; and in a few minutes, one of the most passive and inveterate forms of the affection is transformed into an active stage, and becomes amenable to the milder principle of treatment applicable to the inflammatory condition of the disease.

If there be one thing that distinguishes ekzema more than another, it is nervous irritability. When this state of nervous irritability prevails (and it may be present in various degrees from the slightest up to the most confirmed)—when every known application creates pain or awakens dread and alarm—our only resource, but a most valuable one, is nitrate of silver, in solution, of various strength, from two grains to the ounce up to a drachm, and dissolved, as the case may be, in distilled water or in nitric ether. Such a solution painted over an inflamed and irritable surface, acts like a charm; from bearing nothing the ekzema will bear everything; and a dressing with the zinc ointment becomes its greatest solace. But it may happen, and very probably will do so, that the irritability will in the course of time return, in which case the remedy should be repeated; and it may be repeated again and again, and for as long a period as the nervous irritability presents an obstacle to the cure of the eruption.

You will frequently meet with cases that will tempt you to the use of such expressions as dyspeptic ekzema, gouty ekzema, rheumatismal ekzema; such distinctions as these are utterly uncalled for in practice,

but they point a moral; they show that in the treatment of such cases you must always have before your eye the dyspeptic, the arthritic, and the rheumatismal tendency or diathesis, and all these we include under the general denomination of assimilative. And, if we suppose such a case, we should begin our treatment with nitro-muriatic acid and a bitter, such as gentian, or calumba, or orange-peel, and a pill, consisting of the compound colocynth extract, blue pill, and extract of henbane, every second or third night, as the case may be; and in the case of an arthritic or rheumatismal complication we should not fail to prescribe a grain of the acetous extract of colchicum every night. In other cases, where more debility of the mucous membrane seemed to be present, or after, by the previous course, we had secured a healthy action of the liver, we know of no remedy so perfect as the citrate of iron and quinine. And in younger persons, with some little feverishness of system, we should prefer small doses of sulphate of magnesia, with sulphate of quinine and sulphuric acid, either in combination with infusion of roses or infusion of orange-peel.

ART. 55.—*On Leichen Planus.*

By ERASMUS WILSON, F.R.S.

(*Journal of Cutaneous Medicine*, July.)

“Leichen planus is an eruption of pimples remarkable for their colour, their figure, their structure, their habits of isolated and aggregated development, their habitat, their local and chronic character, and for the melasmic stains which they leave behind them when they disappear.

“The *colour* of the pimples is a dull crimson-red, more or less vivid, and suffused with a purplish or lilac tinge. It is most characteristic in the recently developed and discrete papules, and in the aggregated form is apt to assume the dusky hue of ordinary chronic affections of the skin. We incline to the belief that it is to this eruption that Hebra has given the name *leichen ruber*, apparently led to that designation by the striking colour of the pimples, which contrast very strongly with the unaltered complexion of the skin on which they are developed. Indeed, it is generally the colour and appearance of the pimples, without other symptom, that first attracts the attention of the patient to the disorder, and urges him to seek for relief.

“In *figure* the papulæ are flattened, smooth, and depressed on the summit, angular in outline, only slightly elevated, and of a size ranging between one and three lines in diameter. And this peculiarity of figure is so striking that we have selected it as the pathognomonic characteristic of the eruption. The redness may be the first sign to strike the eye, but redness is a phenomenon common to many eruptions of the skin; although, as we have just said, the redness of leichen planus is peculiar; whereas the flatness of the summit of the papulæ is altogether different from anything that is met with in other affections of the skin; and the flatness is rendered more conspicuous by the summit of the papulæ being occupied by a thin, horny, semi-transparent lamina of

cuticle, depressed on the surface, and marked in the centre by the aperture of a follicle which represents a sort of *hilum*. It is to this peculiarity of figure that the word *planus* is especially applicable, and this has guided our use of the term.

"In *structure* the papule of leichen planus is a hyperæmia with exudation, surrounding a follicle, and covered by a thin layer of horny transparent cuticle, while the aperture of the follicle and its conical epidermic plug are visible in the centre of the horny plate. The horny covering of the papule is in no wise a scale; it rises and falls with the papule, and neither separates nor exfoliates. When the papule subsides in the course of cure, its horny covering still remains, and disappears by degrees without exfoliation. In one form of the affection, the summit of every pore has its little horny plate, without any papular elevation whatever, and the surface of the skin looks as if it were inlaid with minute spangles or glittering particles of mica, perfectly homogeneous with the rest of the epidermis. This applies, we need hardly say, only to the discrete form of the affection, to the separate papules; in the aggregated form of the disease a new element is introduced, namely, diffused exudation, and in that case, as in every other instance of diffused exudation, exfoliation and desquamation take place, and the horny covering of the papule already described exfoliates with the rest of the cuticle. Whenever this exfoliation occurs, it is interesting to note the continuity of the under surface of the horny plate with the epithelial lining of the follicle. Nevertheless, not even then is the horny plate a "scale" in the proper sense of the term, but merely a portion of exuviated cuticle, cast, like the rest, as a consequence of the temporary suspension of nutrition.

"Leichen planus presents two principal forms of manifestation, *discrete* and *aggregate*; it usually begins as a discrete eruption, appearing as isolated pimples in some one region of the body, or dispersed on various parts. Here and there a few papules are thrown up near to each other, sometimes simultaneously, but more frequently in succession; then the intermediate skin becomes hyperæmic and infiltrated, and a patch results, consisting of an aggregation of papulæ united by an inflamed and infiltrated base. With these aggregated patches the discrete form of the eruption is more or less abundantly commingled; and the patches range in size from half an inch to several inches in diameter, sometimes covering the greater part of the internodal portion of a limb. In the aggregated form of the affection, the interpapular congestion and infiltration assume the most important place in our consideration, the infiltrated skin often rises up to a level with the summit of the papulæ, the papulæ are as it were submerged, and blended in the general exfoliation and desquamation which ensue, and we are driven to seek, in the circumference of the patch or in other regions of the body, isolated papulæ in order to confirm our diagnosis. Nevertheless, with close inspection the figure of the separate papulæ may still be detected in the midst of the patches, and especially that peculiarity of structure already noted, namely, the continuity of the desquamating cuticle with the epithelium of the follicle. Not unfrequently the aggregated patches are circular in figure and of small size, and might very easily be mistaken for lepra vulgaris, the more especially as patches of this kind are apt to

grow by the circumference and become depressed in the centre. But in this case the scale of lepra is always absent, and the history of the case, the seat of the eruption, and the presence of isolated papules confirm the diagnosis. At other times the broader patches of the aggregated form of the affection so closely resemble those of dry chronic ekzema, that a mistake on the part of those unfamiliar with cutaneous diseases would be perfectly pardonable. We lately saw a patient suffering under this disease, in whom it was named by an experienced dermatologist, 'leichen agrius pruriginosus.'

"The *habitat* of the eruption is also characteristic of the identity of leichen planus; it is pretty constantly met with on the front of the forearm, just above the wrist; in the hollow of the loins; on the lower half of the abdomen; on the hips; around the knees, particularly over the mass of the vastus internus muscle; on the forearms and calves of the legs; and in women, around the waist and in the grooves occasioned by the garters. We have seen it also, but less frequently, on the palm of the hands and sole of the feet; and in two instances on the tongue, the buccal membrane, and the mucous lining of the fauces.

"Leichen planus is essentially *chronic* and *local* in its habits. In twenty-seven out of fifty cases examined, the eruption, at the time of application for treatment, had lasted between one month and three; in eleven, between three and six months; in three, between six months and one year; and in six, between one year and seven. In distribution it is generally symmetrical, but occasionally is limited to one side of the body; sometimes occurring on one side in the upper extremity, and on the other in the lower. It has no constitutional symptoms of its own, and frequently prevails with very little constitutional disturbance of any kind.

"The *melasmic* discoloration of those parts of the skin where the eruption has existed, and where it has disappeared, is a characteristic feature which leichen planus possesses, in common with lepra vulgaris, but is not so commonly met with in other affections. These stains are often very remarkable; they give rise to a strange mottling of the skin, and may be accepted as a pathognomonic character when taken in association with the signs already considered.

"The separate papules of leichen planus sometimes enlarge sufficiently to produce a raised border with a depressed centre, and so to constitute a distinct ring; while at other times the ring results from the peripheral elevation of the border of a small patch; or the ring may itself be composed of a chain of papules; in either case a configuration results, which we have termed *leichen planus annulatus*. Sometimes these annuli are small, and round or oval in figure; at other times they are extensive. Occasionally the circles are broken, and only an irregular curved line remains to indicate the border of the vanished patch; in which case the term *leichen planus marginatus* is appropriate.

"Leichen planus scarcely deserves to be classed among the pruritic affections. The itching is generally very trifling, but in some instances is intolerable. Such cases have suggested the term *leichen planus pruriginosus*, which is then strikingly applicable.

"This eruption is most commonly met with in the adult of middle age; the greatest number falling within the decade between forty and

fifty years. Of fifty cases one only occurred under twenty years of age; eight between twenty and thirty; and thirty-nine between thirty and sixty. In reference to sexes, the majority lies on the side of the female, in the proportion of twenty-seven to twenty-three male.

"Leichen planus must be regarded as a rare affection; fifty-one instances only occurring in a register of ten thousand cases of every kind of cutaneous disease. And as this number of cases is spread over a period of five years, extending from 1864 to 1868, we find that for separate years the numbers were:—1864, five cases; 1865, ten cases; 1866, eight cases; 1867 twelve cases; and 1868, twelve cases. These figures, of which the total is forty-seven (the precise date of origin of the remainder not being ascertained), represent the period of commencement of the disease; and a further examination shows that the numbers originating during the first six months of the year were twenty; and the latter six months, twenty-seven: the months the most fruitful in the origin of the affection being July and September, and next to these October and December.

"It has seemed to us that a common predisposing cause of the disease is the heat of the summer season of the year; that is to say, the depressing consequences produced upon the skin and upon the constitution generally by the effects of heat; and the above figures correspond very fairly with this hypothesis; for although July, of the months enumerated, is the only one which is really hot, yet the effects of the heat may be supposed to be manifested some weeks later, as in September, October, and December."

As an illustration of the ordinary features of this affection, Mr. Wilson appends a short notice of the fifty cases upon which the above general remarks have been founded.

In reference to the *treatment* of leichen planus, our first object, the author writes, should be to regulate the functions of the economy wherever any disorder might be apparent; in the next place we should endeavour to restore the vigour of the system by tonic remedies, such as bitters, quinine, nitromuriatic acid, and chalybeates; and these objects being effected, we may finally have recourse to the tonic-nutritive operation of arsenic. Locally, the most reliable remedy is a solution of the perchloride of mercury in emulsion of bitter almonds, in about the proportion of two grains to an ounce. It is important, before using the latter remedy, to stimulate the eruption by friction; and in the instance of the desquamating confluent patches, to remove as much of the scale and sordes from the surface as possible by means of a thorough saponaceous ablution. Next in efficacy to the mercurial salt is the pentasulphide of lime solution. The eruption is sometimes very rebellious, but in general yields very fairly to treatment.

ART. 56.—*On the Therapeutics of Diseases of the Skin.*

By T. McCALL ANDERSON, M.D., Professor of the Practice of Medicine in Anderson's University, Physician to the Royal Infirmary and to the Dispensary for Skin Diseases, Glasgow.

(*The Lancet*, November 20.)

In the treatment of diseases of the skin, as of most other complaints, it will be found that there are often different ways of arriving at the same goal. In Germany, especially in Vienna, local treatment is principally relied upon, while in England it appears to Dr. Anderson that constitutional treatment is too exclusively resorted to. Some diseases of the skin are best treated by local, others by constitutional treatment, while a few may be cured by either, but the majority of them yield most readily, and are removed most permanently, by a mixed local and constitutional treatment.

A. *Local treatment.*—Local treatment, the author writes, is *especially applicable to eruptions dependent upon local causes*—is, indeed, the only treatment in most cases which is of any use. In scabies, for example—*i. e.*, the disease due to the presence of the itch insect,—external treatment suffices for a cure, it being unnecessary, as suggested by Wilson* and others, to prescribe sulphur internally. Frequently, however, in cases of eczema for example, an eruption is called forth by a local cause, which would have failed in producing such a result had there not been some constitutional derangement. Such cases require a mixed treatment.

On the other hand, it must be borne in mind that *many eruptions originally dependent upon constitutional causes become ultimately mere diseases of the skin*, the constitutional cause having disappeared, and the eruption being perpetuated owing to the skin having, so to speak, contracted a bad habit. We see this occasionally, for example, in young adults affected with chronic eczema which had begun in infancy; and in such cases a local treatment often yields the most satisfactory results.

We must not, however, lose sight of the fact that *local applications have not a merely local action*—that they are absorbed, and often react on the system at large. In the case of mercury this is admitted and acted upon; in the case of many other drugs it may be admitted in the abstract, but it is seldom taken into account. For instance, it occasionally happens that when a preparation of tar is rubbed firmly over an extensive surface, indications of its absorption are not wanting. The patient may be seized with nausea, vomiting, and diarrhoea, the discharges from the stomach and bowels having a black colour, while the urine may have a dark-green or even blackish tint, and emit a tarry odour. It is not usual for all these symptoms to be present in a given case, but the occurrence of any of them is sufficient to show that the remedy has not a mere local action.

Lastly, let me warn you that *local applications are far from uniform in their action*; this being due in part, no doubt, to the state of the general

* On Diseases of the Skin. Sixth Edition. pp. 223. London: Churchill, 1867.

health, the varying sensibility of the skin, and the degree of care with which they are prepared. It is of special importance to insure the careful preparation of ointments; for if they are the least gritty or rancid they are very apt to prove injurious.

If the affected surface is covered with scales or crusts, or débris of any kind, it is almost always desirable to remove them at the outset. This is often necessary for purposes of diagnosis, for otherwise we can only guess at the condition of the parts beneath: it is still more important previous to treatment, for otherwise local applications cannot reach the diseased surface whose condition they are intended to modify. The removal of crusts is a very easy matter, and may be effected in various ways. I usually order the patient to saturate the parts thoroughly with almond oil, and to remove the crusts thus softened with warm water. Should this fail, a poultice of crumb of bread and hot almond oil may be applied at night, and if they do not come away with the poultice in the morning, the part may be lubricated with fresh almond oil, and the crusts removed about half an hour afterwards with the finger-nail, or, if the disease is on hairy parts, with the comb. The removal of scales—in cases of psoriasis, for example—is often satisfactorily accomplished by the use of potash applications, to which reference will be made hereafter.

Leaving out of view for the present the exact nature of the eruption (i. e., whether syphilitic, simple, strumous, parasitic, or the like), the first point to decide, before treating an inflammation of the skin, is *whether the eruption is acute or chronic*—that is to say, whether it requires soothing, or will tolerate stimulating applications.

If the surface is acutely inflamed, if it is the seat of a copious eruption of vesicles or pustules, if there is much swelling, and, above all, if the patient complains of burning heat or pain rather than of itching, local treatment should either be avoided altogether or soothing applications resorted to. To this, as to most rules, however, there are a few exceptions. In tinea sycosis (ringworm of the beard), for instance, when the part is greatly swollen and indurated, the seat of numerous pustules, and the source of burning heat and pain, the best treatment consists, not in the use of soothing applications, but in the extraction of the hairs. In this case the treatment is decidedly stimulating; but the stimulation is more than counterbalanced by the soothing effect of removing hairs which are diseased, which are loaded with the spores and tubes of the fungus, and which are acting as foreign bodies.

Soothing applications may take the form either of baths, powders, poultices, ointments, or lotions.

Baths are often serviceable, especially warm baths, to which a little washing soda, a pound of gelatine, or a few handfuls of starch have been added. They are particularly useful in inflammations affecting a large extent of surface; in cases of acute general psoriasis, for example.

Benefit is sometimes derived, too, from *hydropathic treatment*, which I am in the habit of administering thus:—"On a firm mattress a sheet of M'Ghie's oil-paper or other material, to prevent the wetting of the mattress, is placed; then a couple of straps are laid across the bed; above this a dry blanket is spread out, and, finally, a sheet wrung out of cold water. The patient, in a state of nudity, is made to lie down on

this; and it is then wrapped tightly and carefully round him, so that every part of the skin is, if possible, in contact with it, and the blanket is similarly applied. The whole is then kept in position by the two straps, and the patient is covered by two or three blankets thrown loosely over him. In this state he is allowed to remain for two or three hours, during which time he is allowed to drink water *ad libitum* to promote perspiration; and the process is completed by making him jump into a cold bath, and then dress himself and take a sharp walk." This treatment is of value in acute general psoriasis associated with great heat of skin; it is sometimes useful—nay, even curative—in chronic general psoriasis, and relieves irritation of the skin when present in a very marked manner. It may, therefore, be repeated daily, and continued as long as improvement takes place.

The *shower bath* sometimes yields good results. It may even remove the eruption altogether, but it is chiefly of benefit as a palliative for the relief of uneasiness, in severe cases of acute and chronic eczema for example. The water should be finely divided—should fall from the height of about a foot, and the shower should be continued on each occasion from five to fifteen minutes. The bath may be repeated three or four times a day, and the patient should take brisk exercise for half an hour after each.*

Before leaving the subject of the treatment of diseases of the skin by water it may be well to caution you to warn your patients against the use of hard or of sea water, which is very apt to bring out, or to aggravate, an existing inflammation. Spring water is generally hard, and therefore to be avoided, while distilled, or rain water, is always to be preferred when it can be had; if not, the water should be boiled so as to cause a deposit of its salts before it is used.

Absorbent powders are sometimes of use when we have to deal with an acute inflammation, such as erysipelas or shingles, and also when there is a tendency to moisture, and when it is desirable to keep the parts dry, as when we have to do with an eczematous eruption implicating portions of skin which are in apposition. Those which I am most in the habit of using are: Powdered starch, zinc, lycopodium, talc, carbonate of magnesia, and carbonate of zinc. These may be combined in various ways, and when burning heat or itching is complained of, a little camphor may be added, as in the following prescription: Powdered starch, six drachms; oxide of zinc, three drachms; cochineal, one grain; powdered camphor, half a drachm; make into a powder. Dusting powder, to be kept in a stoppered bottle.

Poultices are often of value for the relief of pain or tension, or to hasten suppuration when it is impending; but it must never be forgotten that their long-continued use is a source of inflammation. Thus they are apt to call forth eczematous eruptions, especially in persons predisposed thereto; and most of you must be familiar with the fact that their incautious application in the treatment of boils favours the development of others in the vicinity.

Soothing ointments are more universally applicable than any of the pre-

* *On Diseases of the Skin, including the Exanthemata.* By Ferdinand Hebra, M.D. Vol. ii. p. 147. Sydenham Society's translation.

ceding, although, in some cases, even the most emollient and most carefully prepared, owing to some idiosyncrasy, cannot be tolerated. They are used to soften and favour the removal of crusts and other débris, but, above all, to form a covering for, and protection to, the inflamed parts, and thus to exclude the air. One of the best of these is the benzoated oxide of zinc ointment (so prominently brought before the profession and so justly lauded by Wilson), and which is much improved by the addition of two drachms of spirit of camphor to each ounce of the ointment, being thus rendered softer, and at the same time more cooling. The benzoin in the zinc ointment prevents it from becoming rancid and irritating, while at the same time it imparts to it a certain fragrance.

Another very soothing ointment is one containing bismuth, as in the following mixture: subnitrate of bismuth, half a drachm; rectified spirit, a drachm and a half; simple ointment, six drachms; oil of roses, half a minim. You must avoid using benzoated lard in this prescription, for while the benzoin in the zinc ointment, for reasons which I cannot explain, does not irritate, it is apt to do so in some persons when combined with other medicaments, such as bismuth.

A very good ointment, too, though not so soothing, is made from litharge plaster and olive oil, as follows: litharge plaster, four drachms; best olive oil, three drachms. Apply heat until the plaster is melted, then stir till the mixture cools. This ointment, spread on strips of linen, and applied in the form of a "scultetus," is very soothing, and gives support to the parts in cases of acute eczema of the legs.

Soothing lotions are sometimes of service for the relief of uneasiness; indeed, they are not unfrequently curative—in cases of acute eczema impetiginodes of the face, for example. Those containing lead and soda are amongst the best, and may be used in the following forms: (a) Solution of subacetate of lead, one drachm; glycerine, four drachms; distilled water, six ounces. (b) Dilute hydrocyanic acid, two drachms; bicarbonate of soda, one drachm; glycerine, four drachms; rose-water, five ounces and a half. The parts should be frequently sponged with these lotions, or pieces of clean rag dipped in them may be kept constantly applied.

ART. 57.—*Hints as to the Study of Skin Diseases: being Abstracts from Lectures.*

By JONATHAN HUTCHINSON, F.R.C.S.

(*London Hospital Reports*, vol. iv.)

The object of these "hints" is to simplify the study of skin diseases by laying down general rules as to their pathology, and reducing the number of the names by which skin diseases are designated. Nearly all skin diseases, Mr. Hutchinson argues, are inflammations of the skin, either acute or chronic, and their modifications are produced by various circumstances connected with their causes, the part of the skin attacked, and the personal condition of the patient. He recommends the student to observe the different forms which these inflammations assume, as papules, vesicles, pustules, scaly crusts, pus crusts, rashes, erythema—

congestion, tubercles, bullæ, vesications, &c. In treating of the simplification of the nomenclature, Mr. Hutchinson proposes to abolish the distinction between lepra and psoriasis, since the two are only variations of the same disease, while pityriasis is distinguished from psoriasis, inasmuch as the former is caused merely by exfoliation of epidermic cells. Strophulus, again, should be expunged, since it has no separate existence, but is a mere form of lichen, and the distinction between lupus "exedens" and "non-exedens" is of no value, as the difference depends only upon the nature of the part attacked. With a view, also, to facilitate the labours of the student, Mr. Hutchinson proposes to divide skin diseases into those which are common and those which are rare, although, of course, such a division is quite unscientific; and he advises the beginner to make himself acquainted first with the types of the common diseases.

ART. 58.—*A Lecture on the Treatment of Skin Diseases, being an attempt to take a Coup-d'œil of Cutaneous Pathology and Therapeutics.*

By JONATHAN HUTCHINSON, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Medico-Chirurgical Review*, July.)

In order to determine upon the best methods of treatment in skin diseases, it is necessary to divide the pathology of these affections into different sections. Thus one group of skin phenomena are due to the action of specific animal poisons on the blood, as scarlatina, smallpox, &c.; but active interference in such cases is generally contra-indicated, as they run their course in spite of treatment or without it. Another class of skin diseases belongs to the syphilitic division, and in such cases mercury is the proper remedy; or, at any rate, if it is not the remedy, as Mr. Hutchinson remarks, we do not possess one, and we must leave syphilitic maladies, like the exanthems, to disappear spontaneously. Another group which resembles the exanthems includes erythema and herpes, but is not amenable to special treatment; and a fourth group, of which urticaria is the type, is dependent on the introduction of known poisons, either as drugs, or as articles of food, into the blood. A fifth group is called by Mr. Hutchinson the relapsing constitutional group, and comprises the different kinds of psoriasis, which are cured by arsenic, but are liable to relapse. The last group comprises the skin diseases which are due to the presence of animal or vegetable parasites, pus contagion, or even of lime, sugar, flour, soda, &c. After combating the idea that skin diseases are produced by dirt, debility, or poor living, and proving that the better and more careful classes of society are as subject to these complaints as the poor and the ill-fed, Mr. Hutchinson points out that the cure is not to be found merely in the adoption of hygienic measures, but in the application of medicines. Thus sulphur destroys the itch-insect, mercury destroys the vitality of pus or exudation cells, and the same mineral cures secondary syphilis; the iodides cure tertiary syphilis; arsenic is a remedy for psoriasis and pemphigus,

&c. In reference to the use of the last-named drug in medicinal doses, Mr. Hutchinson states that the almost universal testimony of the patients who have taken it is to the effect that it not only cures the disease, but improves instead of injuring the general health.

ART. 59.—*Notes on the Treatment of Diseases of the Skin.*

Under the care of Dr. ROBERT LIVEING, Assistant Physician,
Middlesex Hospital.

(*British Medical Journal*, November 13.)

Severe case of Acne Rosacea: enormous Hypertrophy of the Cutaneous Tissues of the Nose; treated by Hebra's method.—A hair-dresser, suffering from "spirit-drinker's nose," and having lost an excellent situation in consequence of this disfigurement, applied for relief in July last. The treatment adopted consisted in dividing the varicose vessels of the part affected, by transverse incisions with a small sharp knife; and, after allowing them to bleed freely for a few minutes, painting the nose with the tincture of the perchloride of iron; this produces contraction of the hypertrophied skin, and tends to obliterate the vessels. About a dozen incisions were made the first time, and a like process was repeated a week later; on both occasions, with very marked benefit. This mode of treatment was then discontinued for a month, and other remedies, such as sulphur ointment, were applied, but with no apparent result. The method by incision was again resumed in September last, and continued up to the present time; the improvement has been very rapid and striking, and to the great satisfaction of the patient, who had previously tried many remedies without avail.

Treatment of Psoriasis by Copaiba and Carbolic Acid.—M. Hardy was the first to direct attention to the use of copaiba in dealing with psoriasis. In ordinary cases, the treatment of this disease by Fowler's solution is so satisfactory, that no one is tempted to use the more unpleasant remedy of copaiba. But, in some obstinate cases, the balsam succeeds where arsenic has failed. Three cases of this kind were treated by Dr. Robert Liveing, during the last summer session. In all three, Fowler's solution had been freely administered for many months, with decided improvement at first, but with subsequent retrogression, and with no improvement whatever for many weeks previous to the discontinuance of the arsenical treatment. In two out of the three cases, the administration of the copaiba draught was followed by rapid disappearance, in about six weeks, of the psoriasis; and, in the third case, it resulted in decided improvement, though not in complete cure.

Seven cases of psoriasis were treated by carbolic acid with more or less success. It was administered either in the form of a pill, made up with extract of liquorice, or in solution; and the doses varied from one to three grains, three times a day. The general conclusion arrived at with regard to the use of this drug as a remedial agent for psoriasis, so far as could be determined from seven cases, was that, though certainly exercising some curative power, it was far inferior in this respect to the preparations of arsenic.

ART. 60.—*On Some of the More Recent Methods of treating Certain Diseases of the Skin.**

By T. McCALL ANDERSON, M.D. Glasgow.

(*British Medical Journal*, October 2.)

He commenced by referring to the use of a solution of acetate of soda (20 gr. to an ounce of water) as a local application in lupus exedens and in strumous ulceration. He then pointed out the value of the application of lint spread with melted emplastrum hydrargyri in cases of lupus erythematodes. The use of coverings of vulcanized india-rubber in certain cases of eczema, psoriasis, pruritus senilis, prurigo, ichthyosis, callositas, and many obstinate localized eruptions, was next discussed; and Dr. Anderson pointed out that the remedy acted by excluding the air, keeping the parts warm, and at an uniform temperature, and promoting the secretion from the cutaneous glands, which are retained so that they macerate and favour the removal of the epidermis. Lastly, he quoted a number of cases illustrative of the value of the internal administration of tar and carbolic acid, especially of the latter (which he prescribed in doses of from three to ten grains, thrice daily), in the treatment of certain cases of chronic eczema and of psoriasis.

ART. 61.—*On Contagious Impetigo.*

By TILBURY FOX, M.D. Lond., Physician to the Skin
Department in University College Hospital.

(*Journal of Cutaneous Medicine*, October.)

Dr. Fox's reason for pressing this disease upon the notice of the profession is the fact that, when once recognized, it is readily cured by local means; but when regarded as a pustular ekzema—an ordinary impetigo—and treated as such, it may and does last mostly for a long time, not yielding to the remedies generally employed for ekzema and its allies.

Definition.—Broadly described, the disease is often epidemic, varying in severity both as regards general and local manifestations at different times. It is pyrexial, markedly uniform as to its eruption, which is at first coarsely vesicular, the vesicles, or minute bullæ, being distinct and separate, and quickly enlarging into flattened bullæ, which are replaced by flat yellow crusts. The mucous membranes are not unfrequently implicated, vesico-pustules developing upon them, especially those of the eye. The disease tends to run a definite course. It is contagious, the secretion furnished by the eruption being capable by inoculation of producing the disease in unaffected and healthy subjects.

Clinical History.—I. *The Attacked.*—The disease is mostly found amongst the lower orders, and almost always the children—those,

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association.

indeed, who attend as out-patients at hospitals and dispensaries; but I have seen it in children of best position. The cleanliness and care exercised with the latter, however, suffices to prevent self-inoculation (by which the disease is so frequently spread and prolonged). The disease as a rule in the better classes is therefore much more definite in its course, whereas amongst the poorer folk the overcrowding and huddling together of their children sufficiently account for the inter-transmission and long continuance of the disease. But even with these it is not the specially unhealthy that are attacked; the well-nourished, those of whom mothers say, 'He has never had a day's illness in his life,' and who are 'as hale and hearty as a child can be,' are frequently affected. I lay great stress on the special opportunities and the absence of preventives of contagion amongst the lower orders as influencing the occurrence of the disease.

"II. *The Pyrexia* may be very severe: I have seen it accompanied by convulsions in infants. When the disease is very prevalent, there is generally smart fever; ordinarily the child looks ill, pale, languid, and has 'burning heats' or 'cold chills' at night. It is certain that the eruption appears subsequently to disturbance of the system at large.

"III. In a day or two *the eruption* shows itself. The face, or the top and back of the head, or the seat of recent vaccination, is the most usual spot at which it makes its first appearance. Mothers agree with peculiar unanimity in describing the spots in the earliest stage as 'little watery heads,' that speedily enlarge into little 'blisters.' Many call attention spontaneously to the similarity of the eruption to 'pock,' and to 'vaccinia.' Sometimes the hands are first affected, and the part looks 'as if burnt.' In other rarer instances the disease shows itself at the seat of 'cuts' or 'scratches.' I have seen it engrafted upon the bite given by an affected boy to his little brother. But wherever it first shows itself it extends to other parts, and in no little degree in consequence of the conveyance of the secretion from part to part (head to hand, for instance) in the act of scratching (auto-inoculation), which readily, as before observed, masks the otherwise pretty definite cause of the disease. The vesicles, or *phlyktænæ*, as they may be termed, are usually isolated, but on the face they may, in consequence of their number, run together; the real character of the eruption, however, is always seen at the edge. In five or six days the bullæ, or *phlyktænæ*, reach the size of a three, four, or sixpenny piece, and if unruptured, in some cases a large size may be attained; but in all cases the centre is depressed, umbilicated, and the contents become opaque. The secretion examined microscopically presents numerous inflammatory, and at a latter stage pus cells and homogeneous material (lymph).

"4. *Scabs* commence to form two or three days after the appearance of the vesicles. They are characteristic, being of the size of the area of the bullæ, flat, straw-coloured, dry, granular-looking, and appearing 'as if stuck on.' The disease is, in fact, superficial; in the slighter forms there is no inflammatory areola, but in the severer cases this is not so; there is a zone of redness; when removed, beneath are seen little superficial ulcerations filled up by viscous secretion, 'gummy-like,' not truly pustular, and at the bottom is often a little *bouton* of lymph. There is no unpleasant or offensive smell about the eruption,

the scabs are not dark; there are no pediculi. The disease is characterized by a certain amount of activity and vigour which remove it from the category of 'asthenic' or 'aplastic' affections, and this is important to recollect when a comparison is instituted between it and ordinary purulent ekzema, or it is suggested that the inoculability of the secretion is due to its formation in the tissue of a cachectic subject. On the head the spots have the same characters as those elsewhere, but the hair is somewhat involved in the circular-crusts flattened patches which are *isolated*. The negative evidence is important. The uniform character of the eruption supposes the absence of papules during the height or progress of the disease, and this is so, and bears an important relation to the distinction between this disease and ekthymatous scabies, with which I believe it has been and is very frequently confounded. I have said the mucous surfaces may be affected, small ulcers on the conjunctiva and the nostrils may follow the appearance of an eruption identical in nature with that seen on the skin. A child so affected may seem to be suffering from ordinary purulent ophthalmia. The subjective symptoms of the disease are negative; itching only occurs at the outset, and then it is slight.

"5. *Complications*.—The disease may occur in conjunction with many other forms of cutaneous mischief—with scabies, ekzema, and ekzema impetiginodes particularly. The latter is well seen in the plate 'Porrigo' of the New Sydenham Society.

"*Diagnosis*.—The direct guides to the disease are its apparently epidemic character, in many cases; its attacking children, perhaps several in a family; the antecedent pyrexial affection of the general system, clearly of acute production; the presence of the isolated, flattened, light-coloured 'stuck on' scabs, replacing flattened bullæ which have developed from well-formed vesicles; *the uniformity* of the eruption; the eminently contagious nature, and the inoculability of the secretion; the absence of pain and any itching of consequence save occasionally at the outset.

"There are four or five affections which are likely to be confounded with 'contagious impetigo;' they are ekzema, pemphigus, ekthyma, pustular scabies, and impetigo sparsa. The discrete character of the eruption, the peculiar crusting and the facility of cure, at once distinguish it from ekzema, nor should any difficulty occur in regard to pemphigus, comparatively a rare occurrence, with its persistent and distended blebs with watery contents; the non-contagiousness, together with the absence of the peculiar scabs suffice. Ekthyma is primarily a pustular disease, and, when uncomplicated, is seen mostly in adults; the tissues of the skin are more profoundly affected; there is much induration and redness; it is not contagious, but is accompanied by pain, and possesses large, hard, dark, and adherent scabs. In regard to pustular scabies more difficulty exists; where several members of a family are affected by contagious impetigo, the thing may look very much like scabies. But the one main feature of the impetigo is its *uniform* character, contrasting strongly with the *multiformity* of scabies, which exhibits papules, vesicles, characteristic acarian furrows, is very itchy at night, which is not the case with the other disease, and if ekthymatous, has dark crusts, altogether different from those of the contagious impetigo,—

points of distinction sufficiently clear, even when the seat of mischief is, as is often the case with both diseases, about the feet. Then the impetigo affects the face and head markedly, has such peculiar crusts, and a bullous origin, and none of the subjective phenomena of scabies, which, moreover, in its ekthymatous variety furnishes plenty of evidence of acari in the crusts formed on the surface, if these are softened up and examined microscopically. Inoculation, too, is another test. Impetigo sparsa is an affair which somewhat bewilders me: if by it is meant a small patch of ekzema impetiginodes, then I understand what is meant, but not otherwise. My belief is that under this term has been included, amongst others, the disease which I am now discussing, in entire ignorance of its real nature. Such is a mere sketch of the clinical history of the disease. Viewing it as a whole, it is impossible not to recognize some analogy between its more marked forms and such a disease as varicella, but I forbear to enter upon this topic here."

Dr. Fox next mentions some additional evidence in favour of the inoculability of the disease, and appends a selected series of cases which have come under his notice during the last two or three years.

Treatment.—Dr. Fox never finds any difficulty in curing the cases, mainly by the use of a weak ammonio-chloride of mercury ointment applied to the ulceration beneath the scabs. It certainly alters the character of the secretion, which is no longer inoculable, and disappears rapidly. He regards impetigo contagiosa as one of the most satisfactory diseases to treat, on this account. With regard to internal remedies, they avail little. Occasionally salines are needed at the outset, and tonics in weakly and strumous subjects; but as a rule the ointment named suffices for all purposes.

ART. 62.—*On the Nature and Therapeutics of Lupus Erythematosus.*

By Dr. MORITZ KOHN, of Vienna.

(*Archiv für Dermatologie und Syphilis*, i. 1; *Schmidt's Jahrbücher*, No. 6.)

The lupus erythematosus of Cazenave forms on the skin round patches varying from the size of a penny or shilling piece to that of the flattened hand, the margins of which are linear, of a bright red colour, and elevated, and the central parts occupied by a thin dirty yellow crust, or a dirty white mass of epidermic scales or a depressed brilliant white scar. The margin of each patch is tolerably firm to the touch, sharply defined, and either covered by yellowish scales and crusts, or punctated as if it had been pricked or eroded.

These patches are formed from tubercles, which vary from the size of a pin's head to that of a lentil, and are of an intensely red colour, but slightly elevated, and, at their centres, either depressed or covered over by a closely adherent layer of scaly epidermis. Whilst the elevated margin is extending peripherally and the patch is increasing in size, the depression and scarred appearance at the centre become more distinct, or the original central scab becomes loose and allows itself to

be readily detached, and carries on its under surface thin plugs of epidermis which correspond to dilated follicles.

Through extensive peripheral spreading, and also through fusion, are formed large patches of a roundish or irregularly winding form.

It is rare for the small primary tubercles to become arrested in their development, and to persist forming more or less extensive and thick aggregations.

Lupus erythematosus on the hairy scalp is followed by a total loss of hair over the extent of the diseased region. Although single patches of lupus may undergo retrograde metamorphosis and, at isolated spots, complete involution, the whole process of the disease may last with its relapses for months and years. Even a complete spontaneous cure—a rare event and always a very tardy one—leaves behind a persistent disfigurement, which consists in a more or less extensive cicatrix with a border of pigment, or a thin, dry, and parchment-like patch of integument.

Lupus erythematosus is usually seated upon some part of the face, and on the cheeks or the bridge of the nose. It may also appear on the eyelids, pinna of the ear, the lips, the hairy scalp, the nape of the neck, the arms, hands, fingers, and toes. It is rarely observed on the forearm and on the trunk, and has never been seen between the waist and the toes.

The nature and causes of lupus erythematosus are for the most part quite obscure: whether scrofula, poorness of blood, and faulty nutrition, which conditions frequently accompany the disease both in young and in old patients, have any influence upon it must remain questionable. Even well nourished and strong subjects may be affected. The youngest patient was five years of age.

With regard to the local changes Hebra showed that the starting-point of lupus erythematosus in some cases was the intense seborrhœa which occasionally comes out on the face after variola; the immediate periphery of the diseased follicle being afterwards directly converted into a patch of lupus. On this account Hebra at first called the disease seborrhœa congestiva, but, at a later date, adopted the name given by Cazenave. According to Hebra and some of his scholars in Vienna, lupus erythematosus commences with inflammation and cell formation, at first about the sebaceous glands, and afterwards of the whole follicle and the adjacent cutis. This process, in the majority of cases, is a superficial one, and remains so, taking place in the uppermost layers of the corium. Only at times does the disease attack the subcutaneous cellular tissue. Then the primary patches of lupus present themselves in the form of doughy pale knots in the integument, which vary from the size of a pea to that of a filbert.

According to Kohn's experience no recovery is to be expected from the sole use of internal remedies, as arsenic, preparation of iron, cod-liver oil, and iodine. These agents, however, are often required for the sake of the general condition of the patient. The local treatment is the chief point.

Of the local agents that have been most useful there is none that can prevent a relapse. Each agent may give undeniably brilliant results in one case, and fail altogether in the next. It is necessary to give each

remedy a fair trial, and not to have recourse to another before the effects of the first have been clearly observed. Some remedies cannot be applied alone with any good result, but must be used either in combination or ultimately with others. Almost all the local agents belong to the caustics, and care must be taken in using them that they do not produce harder and more permanent cicatrices than those left after spontaneous cure.

The only non-caustic agent used by Kohn, and with tolerably rapid results, is mercurial plaster. The lupous patches are covered by this, which is changed at the end of twenty-four hours. When the disease is extensive it is well, Kohn thinks, in order to arrest salivation, to alternate the mercurial plaster with soapy applications.

Among the caustic agents the alkalies occupy the first place: these are the alcoholic solution of potash soap—the spiritus saponatus kalinus of Hebra, green soap, a concentrated solution of potash (3j to 3ij of water), and pure liquid ammonia. After the alkalies may be classed the caustic acids, which act superficially; these are, carbolic and diluted acetic and hydrochloric acids. The treatment with carbolic acid, whether crystallized or as a pale fluid, is very long, because the eschar produced by the action remains attached for some time. The acid acts rapidly upon the healthy surrounding integument, and causes great pain. The action of the acetic and hydrochloric acids is milder and less powerful.

The very painful agent, nitric acid, should be reserved for the rare cases of deep-seated lupus, and even those cannot be frequently repeated. Sometimes the lupus attacks the inflammatory circle produced by the cauterization, so that the disease extends at the periphery of the patch, whilst in the centre it is level. Chromic acid, which attacks the diseased to a greater extent than the healthy spots, forms an eschar which adheres for a long time and results in a great loss of substance.

Iodine (tincture of iodine and Hebra's combination of iodine and tincture) and the different preparations of tar agree in their action and results.

If the caustic agents which act superficially have been applied in cases without good results, Hebra's arsenical paste is to be recommended (arsen. alb., gr. v; cinnab. sativæ gr. xv; ung. emoll. 3ij). This is spread on lint and applied to the diseased part for three days until a dark blue eschar has been formed. After twenty-four hours the application is to be renewed. Severe pains commence in the course of eight or twelve hours, when the whole thickness of the cutis has been burnt through. This paste cauterizes only the diseased spots. The resulting cicatrices are deeper than those produced after spontaneous cure or the application of the spiritus saponatus kalinus. The effect, however, is always almost certain.

ART. 63.—*On the Prognosis and Treatment of Psoriasis.*

By Prof. HARDY.

(*Annales de Dermatologie et de Syphilographie*, No. 6.)

The following are extracts from a clinical lecture reported by M. Babaut:—

“What now, gentlemen, is the prognosis of psoriasis? It is not a severe disease—it does not compromise the health of those attacked by it; but it is characterized by being very rebellious and incapable of absolute cure. It may, indeed, be removed; the patients are rendered clean, and most frequently, not a trace nor a scar remains, but the disease relapses very readily: one should not then be surprised to see it appear some months, or some years, after its first disappearance; then the number of relapses goes on increasing, and the intervals between the attacks become shorter. Some persons who had been affected with psoriasis have gone ten years without a fresh attack of the disease. These, however, are rare cases. Generally the disease reappears after from six to fifteen months; the longer the time it takes in disappearing, the shorter is the time of the interval. The seasons seem to have an influence upon the return of the disease; with some patients it appears again at the commencement of winter, and with others at a different period of the year. I have had occasion to see a patient in whom, for fourteen years, psoriasis has appeared in the month of March, and disappeared in September. Psoriasis presents some interest with regard to heredity. This is a difficult question to resolve with hospital patients, who most frequently are ignorant of the health of their parents; but in private practice it is not a rare occurrence to see infants born of parents affected with psoriasis present the disease themselves at a later period: one frequently sees several members of a single family affected with this disease. We have here the transmission of psoriasis from parents to children, as we have a transmission of cancer and scrofula.

“The circumstances of heredity, and of almost certain relapse, would lead one to conclude that psoriasis depends upon a general constitutional disposition; and, in fact, I consider it to belong to the class of darts affections, cutaneous diseases characterized chiefly by chronicity of progress, by relapses, by a tendency to extension, by the existence of itching, and by hereditary transmission.

“What now, gentlemen, is the treatment of this affection? It consists in several measures, which I will point out to you. I should inform you, in the first place, that no dependence ought to be placed upon bitters, or tonics, or purgatives; the compounds of iodine and mercury are equally powerless; but the most potent of medicinal agents, and the one most used for psoriasis, is arsenic, which I generally administer in solution.

“I administer to patients gradually one or two tea-spoonfuls of the following, in half a glass of water, or barley-water:—

Distilled water	300 grammes.
Arseniate of soda	10 centigrammes.

Each spoonful represents five milligrammes of the medicinal agent; by carrying the dose to two spoonfuls per diem, one administers a centigramme. Arsenic, in the state of arseniate of soda, or of iron, may also be administered in the form of pills; but with pills one is less sure of the quantity which the patient takes each day, as they are not always uniform in composition; so I give the preference to the liquid form. With the administration of this agent, one generally observes the redness of the skin to become more intense; the scales are effaced, and the pro-

minent parts become reduced, then the disease gradually disappears without leaving any cicatrix.

“Besides arsenic, there is another therapeutical agent, the importance of which is not so great, but concerning which I wish to speak to you a few words. I allude to copaiba. I was led to make use of this medicine under the following circumstances:—I had in one of my wards a patient who was affected at the same time with psoriasis and gonorrhœa. Wishing to free the man first of the latter affection before undertaking the treatment of the cutaneous eruption, I administered to him copaiba. To my great astonishment, I noticed that the psoriasis diminished with the urethral discharge; copaiba, the action of which upon the skin is proved by the special eruptions which it produces, had brought about a happy modification of the psoriasis; and since that period I have introduced with advantage copaiba into the treatment of the disease. I administer it, with an opiate, in doses of three or four grammes in the day. Latterly I have tried in the treatment of psoriasis a substance which approaches very closely in its chemical character to arsenic, and which has already been tried in England; I allude to phosphorus. I have administered phosphorus to some patients affected with psoriasis by making them take every day a spoonful of the following oil:—

Oil of sweet almonds	150 grammes.
Phosphorus	10 centigrammes.

Each spoonful represents nearly two milligrammes of phosphorus. The original dose is increased progressively until my patients take one centigramme of phosphorus daily. Under this treatment I have seen the spots get pale, the prominences disappear, and the scales fall off; but I have never yet observed a complete cure with this agent alone, to which it has always been necessary in my practice to add some external treatment.

“External medication, which is very important in cases of psoriasis, consists in the employment of starch or bran baths, of vapour baths, and of certain ointments. I generally make use of unirritating ointments, which enable me to remove the scales; those which are the most successful are ointments with a base of tar, and which contain one-fourth, one-third, or one-half of this agent. By the side of this ointment may be placed another, which we make much use of in the Hôpital Saint-Louis—it is one which contains oil of cade or juniper tar. This is its usual favourite:—

Lard	60 grammes
Oil of cade	10 or 15 grammes.

With the aid of these ointments one sees the eruption diminish, and the practitioner may believe in their exclusive utility; but the internal treatment is of great assistance, and, according to my experience, seems to put off relapses.

“These are not the only ointments used. I will mention in addition those containing sulphur and mercury—nitrate of mercury, prot-iodide of mercury, biniodide of mercury. M. Lutz, the *pharmacien* to our hospital, has lately suggested an ointment of sulphocyanide of mercury, in the proportion of one gramme of this substance to thirty grammes of

lard. Finally, I will mention the ointment of nitric acid, which I often employ with advantage (lard, thirty grammes, nitric acid from ten to twenty drops); and I will name also the tincture of iodine, with which the spots may be touched. To these two medications, the external and internal, it is fitting to join the strict hygienic treatment which we carry out in all the varieties of dartrous diseases. High-seasoned food, shell-fish, fish, pork, game, salted foods of all kinds, spiced sauces, pure wine, coffee, and alcoholic drinks must be carefully proscribed. The patient should also be recommended to avoid excessive labour, and principally late hours, and, if it be possible, vexation and intense emotion, as the latter circumstances have often seemed to exert a great influence upon the production of the disease. It is by submitting to these hygienic rules that one may accelerate cure, and, moreover, be enabled to put off relapses."

ART. 64.—*On the Morbid Anatomy of Elephantiasis Græcorum.*

By W. MOXON, M.D., F.R.C.P., Assistant Physician at Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv. ; and *British and Foreign Med.-Chir. Review*, October.)

In a previous volume of the Reports is an account of this case of elephantiasis Græcorum, by Dr. Owen Rees, and Dr. Moxon made a post-mortem examination of the patient, who died at the beginning of the year 1868. The immediate cause of death was amyloid or lardaceous disease of the alimentary canal, liver, kidneys, and spleen, with marasmus in the most extreme degree. Dr. Moxon is not aware that amyloid disease has before been noticed as occurring in leprosy. Contrary to expectation the nerves were found quite natural, and some nodules, felt during life, and supposed to have their seat in the nerves, were found to belong to the veins. On the whole, Dr. Moxon observes, this case shows the excessive slowness with which leprosy advances to a fatal termination, and indeed, if the disease lulled more speedily, it would lose half of its horrors, which it owes to the tedious or protracted suffering it entails on its victims.

ART. 65.—*On Ichthyosis.*

By M. LAILLER.

(*Annales de Dermatologie et de Syphilographie.*)

Between the normal condition of the skin and the deformity known as horny ichthyosis there exists a whole series of intermediary conditions, to which may be given the name of Xeroderma.

Between the xeroderma ichthyodes of the English, and the skin affection which is called ichthyosis sebacea, there is a difference in nature

and seat; the first is a deviation of the *epidemic secretion*, the second is a deviation of the *sebaceous secretion*.

Xeroderma may be accidental and curable. It is, however, most frequently hereditary and congenital, and resembles ichthyosis in its incurability.

Internal treatment seems to be powerless.

Inunctions of preparations with a glycerine basis produce considerable but temporary amelioration; it is not unreasonable, however, to hope for a decided cure from a very prolonged employment of them.

ART. 66.—*Effects of Carbolic Acid on the Economy, on Vegetable Parasites, and Diseases of the Skin.*

By Dr. NEUMANN, of Vienna.

(*The Lancet*, September 18.)

Dr. Neumann, of Vienna, has published, in Dr. Pick's *Archiv für Dermatologie und Syphilis*, Part III. (1869), an excellent article on the above subject. The author experimented largely on animals and plants, and has used the acid in a certain number of cases, the principal of which he relates. Dr. Neumann sums up as follows:—Carbolic acid is an energetic poison, which acts directly on the nervous system; its external or internal use may cause death. It acts three times more quickly when injected under the skin than when taken into the stomach. The acid is useful in scaly skin diseases, but especially in their early stage; it may be used as a caustic in chronic inflammations, and in parasitic affections. The acid, finally, possesses the power of arresting the germination of the lower vegetable organisms; but the solutions must for this purpose be stronger than has been advised—viz., 1 in 500 or 300, and not 1 in 1000.

ART. 67.—*Cases of Tinea Circinata (Ringworm of the Surface).*

Under the care of Dr. TILBURY FOX, of University College Hospital.

(*The Lancet*, August 28.)

A more constant use of the microscope in the diagnosis of cutaneous disease would land the practitioner clear of many errors, especially in reference to the discrimination of the exact nature and cause of eruptions that are mainly characterized, so far as naked-eye appearances are concerned, by "furfuraceous" desquamation. We are led to this remark by noticing how much stress is laid in diagnosis upon the microscopic appearances of scales, crusts, and discharges in disease amongst the out-patients in the Skin Department of University College Hospital: whether, for instance, these be composed merely of epithelial, fatty,

blastematous, or fungoid elements, or an intermingling of these morbid products in various proportions. The appearances presented in certain cases of lepra, chronic eczema, herpes circinatus, seborrhœa, tinea circinata, &c., which approximate in external aspect, are often such—in the absence or presence, for instance, of true inflammatory products—as to lead to the individual recognition of these diseases.

There is one particular class of cases in which the presence and influence of fungi, according to Dr. Tilbury Fox, is almost entirely, if not quite, overlooked. It is that—and few practitioners in private practice, and fewer still amongst those who have charge of schools, can be unacquainted with it—in which the eruption is very slightly raised, slightly rough to the feel, and slightly scaly or “scurfy,” the eruption occurring in patches of a generally circular form of varying size, about the face and neck of children especially, and running a chronic course. Patches may crop up from time to time about the body, and there may be well-marked patches of “ringworm” elsewhere. The disease to which reference is now made is usually called “dry eczema,” or “pityriasis;” but Dr. Fox has long declared it to be parasitic, and included it under the term *tinea circinata*, which has now been adopted by the College of Physicians in its new nomenclature as the term for ringworm of the general surface of the body. Several children of the same family may be brought at the same time suffering from the so-called “dry eczema.”

There is another unusual form of *tinea circinata* in which the parasitic growth produces considerable irritation, and patches covered by slight crusts, and looking much like eczema, are formed. These patches are large, circular, well-defined, and itch a good deal. Hence *tinea circinata* varies according to the degree of irritation produced by the parasitic growth. Simple (non-parasitic) herpes circinatus is, of course, a disease of short and definite duration.

The fungi in many cases of *tinea circinata* are readily missed if the examination be hurried, if any but the thinnest portions of scale be taken, and if the tissues under the microscope be not rendered transparent with reagents.

The following are the features which point to the parasitic nature of the slighter form of *tinea circinata*:—

1. It is a primary form of disease; pityriasis is often secondary to eczema, &c.
 2. The form is circular.
 3. Two or more members of a family or school are affected.
 4. Parasitic elements are detectible together with the products of slight inflammation.
 5. The disease is not of short and definite duration, but chronic, and may last a long time.
 6. There may be on other parts of the body well-marked circular patches of *tinea circinata*, or on the head *tinea tonsurans*.
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SECT. III.—FORENSIC MEDICINE.

ART. 68.—*On Homicidal and Suicidal Wounds of the Throat.*

By ALFRED S. TAYLOR, M.D., F.R.S.

(Guy's Hospital Reports, vol. xiv. ; and British and Foreign Medico-Chirurgical Review, October.)

This paper is founded upon and explanatory of the case of a man named Wiggins, who was convicted and executed for the murder of a woman with whom he lived. On the part of the prosecution it was suggested that he cut the woman's throat in the middle of the night, and then in the morning, when the matter could no longer be concealed, he made a slight cut into his own throat for the purpose of averting suspicion. For the defence it was maintained, as was stated all through by the prisoner, that the deceased first tried to cut the man's throat, and then, after the man had escaped and raised an alarm, cut her own. Dr. Taylor's paper examines carefully all the medical facts of the case, discusses the power of locomotion or struggling after wounds of the trachea, the common carotid artery, and the internal jugular vein; and also treats of the question as to the time when cadaveric rigidity sets in. If the man's account was true, the body became stiff almost immediately after the death, for all the witnesses agreed as to the fact of the rigidity; but, inasmuch as numerous observations have shown that this rigidity does not supervene in general until about four hours after death, the wound must have been inflicted long before the alarm raised by the prisoner. The blood, also, on the deceased's shift was dry, as was also that on some parts of the prisoner's dress, another fact inconsistent with the story told by the latter, which, moreover, was told at different times, the relation being inconsistent with the medical and other facts of the case, and inconsistent with itself when the story told at one time was compared with that told at another. Dr. Taylor's conclusions all point to the guilt of the prisoner.

ART. 69.—*Galvanism as an Antidote in Poisoning by Gelseminum Sempervirens.*

By J. T. MAIN, M.D.

(Boston Med. and Surg. Journal, April 15; and American Journal of the Medical Sciences, July.)

Dr. J. T. Main, of Unity, Maine, makes the following interesting statement:—

"In the summer of 1866, I took, through mistake, one drachm of fluid extract of gelseminum sempervirens, and immediately started to see a patient suffering from paralysis. The patient resided some eight miles off, and before arriving I became nearly blind. Control over the upper eyelid was almost entirely lost. The flexor muscles of the hands and arms were paralysed, while the extensors were nearly so. Sensation

in hands and arms blunted, but not in proportion to loss of motion. My speech was somewhat affected. A very disagreeable sensation of the head was felt even before the muscles came under the influence of the drug, but my mind was quite clear.

"In this condition I arrived at the house of my patient, and as I was incapable of using my hands (my legs did not suffer nearly as much), I directed the nurse to apply the galvanic battery to the patient, and as she was about putting the instrument aside, I asked her to apply the poles to my hands, which she did, and I was instantly relieved. The relief received was not only instantaneous, but perfect and permanent.

"I have tried the galvanic battery by way of experiment, several times since, upon those who were pretty well under the influence of gelseminum, and with like results."

ART. 70.—*On Poisoning by Phosphorus.*

By Professor RAMERI BELLINI.

(*Sperimentale ed Annali di Chimica applicata alla Medicina*, May; and *British and Foreign Med.-Chirurgical Review*, October.)

Bellini contributes a long paper on this subject. He comes to the conclusion respecting antidotes, specially chemical antidotes, that nitrate and chloride of silver are the most promising. Phosphorus in the presence of nitric acid and oxide of silver is acidified at the cost of the oxygen, and produces a phosphate of silver, a compound not influenced by weak acids, nor by the acids of the stomach. He reckons that for every centigramme of phosphorus three centigrammes of nitrate of silver are required. Hence, for an adult who has swallowed a poisonous dose of phosphorus (say five centigrammes), six centigrammes of nitrate of silver would be demanded, a dose of the silver salt which has been tolerated.

ART. 71.—*On Poisoning by Phosphorus. Oil of Turpentine the Antidote.*

By Dr. T. E. JENKINS, of Louisville, Ky.

(*The Medical and Surgical Reporter*, May 29; and *British and Foreign Medico-Chirurgical Review*, October.)

Dr. Jenkins observes that poisoning by phosphorus has become as frequent, of late days, as poisoning by means of arsenic in former times; indeed, the former has taken the place of the latter as the popular toxic agent at present. M. A. Tardieu informs us that in criminal statistics phosphorus takes the first rank as the fashionable poison. This substitution of phosphorus for arsenic is, doubtless, brought about by the widespread use of chemical matches, and of phosphorus paste for the destruction of rats, mice, and other noxious vermin, and it is the more dangerous, since, up to this time, no real antidote for the poison has been known.

In view of this state of things, M. Personne has made a number of experiments upon dogs, to discover (if possible) some agent with which to combat the deadly effect of this substance. Among other substances, he tried the oil of turpentine, and the sequel will show the success which has followed his trials. He made three series of experiments, using five healthy dogs in each.

The phosphorus and the oil were introduced by means of a stomach-tube, and the dose for the former was from one to three decigrammes (one and a half to four and a half grains) to each animal, given in the state of match-ends in some cases; in the others the phosphorus was administered in solution in oil of sweet almonds emulsified by means of the yolk of egg. The poison was thus put into a condition most favourable for absorption, and for producing its toxic effect.

The oil of turpentine was employed in the dose of ten grammes (154 grains) emulsified in like manner, and the experiments continued from the 13th of January to the 27th of February last.

The following results were obtained:—The dogs submitted to the action of phosphorus alone all died; those to which the poison was given, and its injection followed in from one to two hours by the antidote, showed the severe symptoms, and some were very sick, but one only succumbed; the four survivors recovered perfect health, and were kept from ten to fifteen days, to be watched if anything untoward would supervene. In series No. 3 the animals were made to receive the poison, and immediately afterwards the antidote; one of these died; the four others suffered a slight indisposition only, and were kept up from ten days to a month, without presenting any alteration in their usual health.

All those to which no antidote was given died; eight of the ten to which the turpentine was administered suffered no serious inconvenience.

The deaths which took place in the second and third series occurred on the 22nd of January, when the temperature fell below freezing-point, and the water to which the animals had access was congealed. This circumstance should not be lost sight of in attempting to account for the death of the two dogs which had taken the antidote. These dogs also were subjected to the maximum dose of the poison, with no increase in the dose of the antidote.

In explaining the action of the antidote in combating the toxic effect of the poison, the subject presents two points of the greatest interest. The first is the *modus operandi* of the poison and of the antidote; the second, the philosophical reasoning which, doubtless, led to the employment of the antidote.

Apart from the powerfully irritant action on the mucous lining of the stomach of the acid produced by the oxidation of the phosphorus while still lying unabsorbed in the cavity of that organ, this poison possesses an inherent deadly effect upon the blood itself, when taken into the circulation. Absorbed phosphorus kills by preventing proper hæmatisation; it engages the oxygen, and does not allow it to perform its usual functions of aerating the blood, of converting chyle and venous blood into the vitalized fluid. When this takes place rapidly, there is prompt death by asphyxia; when it occurs slowly, it gives rise to fatty degeneration, the result of faulty hæmatisation. The disposition to, and accu-

mulation of, fat in individuals using phosphorus in minute doses as a medicine was some time ago announced as a fact. Then the question whether the increase of fatty deposits be a normal process or a pathological one would be pertinent. If it be a fatty degeneration in the sense it is generally understood, may we not ascribe the apparent improvement frequently observed in emaciated patients after a course of the hypophosphites (easily oxidizable compounds) rather to the change of one pathological condition for another, or the superinduction of a new pathological state?

It has been long known that phosphorus, under ordinary circumstances, is slowly oxidized in the air, giving rise to a sensible increase of temperature, with perceptible evolution of light. The phosphorus is also found to be covered with a film of acid, resulting from its oxidization. When, however, the atmosphere surrounding the phosphorus contains a minute proportion, the 1·4444 or more of its volume, of the vapour of the oil of turpentine, this slow oxidization is suspended until the surrounding temperature of the phosphorus is increased; then the amount of the vapour of turpentine must be augmented to produce the same effect. The observations were made between 66° Fahr. and 200° Fahr., by Graham, of London, prior to 1850.

Oil of turpentine or its vapour would then serve to prevent the absorption of oxygen by the phosphorus in the blood, in the same way as it prevents the slow combustion at moderate temperatures in air; thus the poison is stript of its property of depriving the blood of its essential, oxygen, and time is allowed for the elimination of the phosphorus without causing serious disorder in the system.

It is here suggested that other bodies than the oil of turpentine may be employed as antidotes for phosphorus upon the same principle; for we know that at the ordinary temperature, 60° Fahr., and even at 150° Fahr., 1-150 of the vapour of ether, 1-450 of olefiant gas, and 1-1820 of the vapour of petroleum will produce the same effect as does the 1·4444 of the vapour of the oil of turpentine upon phosphorus in the atmosphere.

ART. 72.—*On Poisoning by Phosphorus; arrested by the Essence of Turpentine.*

By Dr. ANDANTE.

(*Journal de Pharmacologie*, November, 1868.)

The author of this paper relates a case in which a man, sixty-three years of age, took (for the purpose of committing suicide) no less than 120 phosphorus ends of lucifer matches, chewing them deliberately and swallowing without expectorating. He took these in two doses, and, to make assurance doubly sure, he followed up each dose with a dose of essence of turpentine. He did not vomit, had pains in his stomach, which were bearable, and his mouth was dry. After a time he was intensely thirsty, and exhaled an odour of phosphorus and turpentine combined. Ultimately he recovered in the course of ten days. The case is worthy of notice, as affording support of the view that turpentine is an antidote to phosphorus.

ART. 73.—*Poisoning by Cimicifuga.*

By Dr. GARRISON, of Woodville, Tennessee.

(The Medical and Surgical Reporter, June 12.)

Dr. Garrison reports that on the 21st of December, 1868, he was called in consultation to a lady, aged twenty-four, wife of an eminent physician of an adjoining county. She had been having labour pains during the greater part of *one month*. The pains were continuous during the day, but would cease after lying down at night. She had already reached the end of the *tenth* month of gestation, labour pains having set in at the expiration of the normal period. During the pains the uterus would contract vigorously, and the os would dilate to the size of a silver dollar, but would contract again after the cessation of the pains at night. This was her second pregnancy. A similar condition existed at her former labour, which was terminated safely after the administration of ergot. At the time of the visit the patient was in good health and spirits, and the foetus was vigorous. It was decided to try the virtues of cimicifuga as a parturifacient, as being safer than ergot, and from the fact that the uterine contractions were already tolerably energetic. Accordingly a drachm of Squibb's fluid extract of cimicifuga was administered. In less than two hours the patient began to complain of great pain in the head, back and limbs, with vertigo to such an extent that she could not sit up. Her pupils were enormously dilated and vision very much disordered. *The labour pains ceased entirely for thirty-six hours*, and the pupils remained dilated for that length of time, although the intense pain in head and limbs ceased in about twelve hours. During the first twelve hours after the toxic dose was exhibited there was nausea and vomiting, with feeble pulse and prostration. Brandy, coffee, and aromatic spirits of ammonia gave relief. After the lapse of a few days the pains returned as vigorously as ever. The presentation being normal, it was decided to give ergot, which was done. It produced tonic contraction of the uterus for several hours, but its influence gradually wore away and nothing was accomplished. The membranes, which were very dense, were punctured, after a vain attempt to rupture with the finger, and a large quantity of liquor amnii was evacuated. From this time the labour progressed rapidly and favourably, and in two hours the patient was delivered of a healthy child. No permanent injury to either mother or child, in this case, resulted from the cimicifuga; but it is proper to record such an instance of its power, and consequent value as a therapeutic agent *when indicated*. It would be well enough to remark in this connexion that this patient is remarkably susceptible to the influence of the narcotics; one eighth of a grain of the sulphate of morphia has produced profound narcotism, requiring energetic treatment; and one two-hundredth part of a grain of the sulphate of atropia induced delirium and alarming symptoms. These facts might have been taken into consideration when the cimicifuga was given, and a minimum instead of a maximum dose administered, but the sequel proved that it would have done no good. Dr. Garrison's estimate of cimicifuga in the treatment of some forms of amenorrhœa and certain nervous disorders is favourable, but he has

had no experience to justify him in attributing to it any *specific* stimulant influence over that part of the nervous system which gives to the uterus contractile energy.

ART. 74.—*A Case of Poisoning by Nicotiana.*

By MAURICE G. EVANS, M.D., M.R.C.S.

(*The Lancet*, June 19.)

The following case of poisoning by nicotiana is related by Dr. Maurice : —“I was summoned on the 21st instant to see a little boy, seven years of age, said to be in a fit. On arriving at the house I found him completely insensible, cold, pulseless, with prolonged respiration. On trying to rouse the child, I discovered a blackish patch, about the size of the palm of the hand, on the side of his neck, which I was informed was ringworm, and that an ever-ready old woman prescriber, with which this neighbourhood is blessed, had advised the parents to procure an old much-used tobacco pipe, to scrap its interior, and apply the ash, mixed with a little oil, to the abraded surface. In the course of half an hour the child went to his father complaining of a sense of choking, tottering in his gait, and vomiting. I saw him about twenty minutes after, and found him in the state above described. The father assured me the quantity of ash applied could be held on the point of a tolerable-sized penknife. The treatment pursued was, having the part immediately well washed with soap and water, rousing the little patient, administering ammonia and coffee, with friction to the limbs, &c. Consciousness and reaction soon commenced returning, and in an hour or so the child was out of danger.”

ART. 75.—*On the Detection of Red and White Corpuscles in Blood-stains.*

By JOSEPH C. RICHARDSON, M.D., Microscopist to the Pennsylvania Hospital.

(*American Journal of the Medical Sciences*, July.)

“One of the primary steps,” the author writes, “in entering upon an investigation of blood-stains is the selection of a proper menstruum for moistening the dried clot; and here, at the outset, we meet with a great discrepancy of opinion. By some authorities pure water, which certainly has the advantage of a far greater convenience in its employment, is highly recommended; whilst others, who prefer saline solutions, fixed or volatile oils, &c., condemn the use of water as utterly destructive to the red corpuscles. This opinion in regard to the action of water on the red discs, seems to be one widely accepted at present.

“In the progress of some researches upon the distension of the white blood-cells when acted on by water (*Pennsylvania Hospital Reports*, 1869), I have often incidentally noticed that many of the red corpuscles become, after a time, so transparent and colourless by the solution and

abstraction of their 'hæmato-crystallin,' that they are quite invisible under a power of 400 diameters, and appear to be in reality dissolved, as stated by Professor Wyman, M. Ch. Robin, and other authorities; yet, when closely scrutinized under a 1-25th immersion objective, their faint transparent outlines can still be detected.

"This observation seemed to have such an important bearing upon the subject of my present paper, that I entered upon its special investigation, which I propose briefly to detail, premising that while the results seemed to prove a very marked difference in density, if not in constitution, between the external and internal portions of the blood-discs, I do not consider the data here collected sufficient for controverting the opinions of those experienced histologists who deny to the red corpuscle a proper cell wall."

In illustration of the author's procedure we quote an experiment:—

"Some minute fragments of dried blood from a stain made upon a piece of muslin about three months before were placed upon a slide, and adjusted on the stage of the microscope; after finding a suitable portion of clot with a thin bevelled edge, water was introduced at the margin of the cover, and allowed to flow very slowly towards the chosen fragment: when this was reached by the wave of fluid, a remarkable appearance of boiling up from its centre was presented for a few moments, and then, as the tinged liquid was replaced by pure water, an aggregation of compressed corpuscles, very faint and colourless, but yet of unquestionable distinctness, became apparent; a few straight interlaced filaments of fibrin were visible, and at intervals the granular spherical lymph-globules occurred among the other elements; these white cells frequently became detached, and floated freely around the edges of the clot, where, as well as whilst still imbedded, they were so much more readily recognised with a low power, that I suspect they have often been mistaken for the red discs. By introducing at the margin of the cover a minute portion of iodine solution (Beale, 'How to Work with the Microscope,' p. 207), the outlines of the decolorized corpuscles are rendered far more obvious, and can often be distinguished even by inexperienced observers.

"In a similar manner the blood of an ox, sheep, pig, chicken, turkey, and canary bird, most of them dried in a thin film upon a slide, and all dried in a mass upon paper or muslin, were carefully examined, and little difficulty found in distinctly perceiving that the colourless stroma, with its 'straight or slightly waving filaments, sometimes more fibrous, sometimes more wrinkled and homogeneous' (Virchow), so long mistaken under lower powers for a mass of fibrin, was actually an aggregation of decolorized red corpuscles, with rare filaments of fibrin, and white blood-cells imbedded in it. It is true that the older microscopists, who rarely obtained first-rate definition with their lenses magnifying much beyond 500 diameters, were probably wise in recommending that none but the most expert should attempt a decision between the blood of various mammalia, even when fresh, for the difference between an apparent magnitude of 1-10th and 1-12th of an inch may well be counted too minute to lightly determine a question often so momentous; but, as during the last three or four years opticians have furnished immersion lenses of 1-25th and 1-50th of inch focal length, which, with the highest

eye-piece, give an amplification of about 2500 and 5000 diameters respectively,—thus rendering, with the former, the apparent size of a red disc from fresh human blood five-sevenths of an inch, while that of a corpuscle from ox blood is but half an inch across, and, consequently, little more than half the area, as seen upon the stage,—it seems as if any careful observer might now, with the aid of such objectives, be qualified to pronounce a positive opinion."

After showing that desiccation in different ways does not cause a difference in the mean diameter of more than 1-140000th of an inch, and that in no instance was a circular red disc observed to exhibit such an approximation in magnitude to those of ox blood as could, by any possibility, render its different origin a matter of doubt, the author made the following calculation, which tends to show that the outer portion of the corpuscles (whether it be merely condensed viscid material, or a true cell wall, composed of membrane, distinct in composition from hæmato-crystallin) is of an inelastic character. "Ten red globules of freshly-drawn human blood, magnified almost 1800 times, were measured with the micrometer, while standing on their edges, both in length (as so placed) and in thickness, their mean diameter being found equal to 1-3346th, and their mean of greatest thickness 1-13385th, of an inch. From these data, estimating the total surface of the globule as approximately equivalent to ninety-six one hundred and sixty-firsts of a ring .00029886 in outside diameter, and .00007478 of an inch thick, plus double the superficies of a segment with a versed sine of .00003739 cut from a sphere having .00017718 radius, I calculated the area of the hypothetical cell-wall to be .00000017932 of a square inch; by further computation, it was found that this amount of membrane would cover a globe .00023891 of an inch in diameter, which number so nearly coincides with that expressing the diameter of the red disc, when rendered spherical by the action of pure water, viz., .00023332 (1-4286th) of an inch, that I think we may fairly conclude that, although the shape of the corpuscle is thus altered, its parietes undergo no real dilatation in the process; further, the corrugated appearance assumed by the corpuscle when any portion of its internal constituent is removed by exosmosis, affords some evidence that, however much the cavity is decreased, its limiting membrane suffers no actual diminution in superficial area.

"Although it must be admitted that the blood-corpuscles of a few mammals approach so nearly in size to those of man as to render their distinction doubtful, yet for the practical testing of blood-stains in criminal trials we will rarely find that such a decision is necessary, since, as a rule, justice only requires that a positive diagnosis shall be made between human blood and that of animals which are commonly slaughtered for food, such as the ox, the sheep, the pig, or of birds, as, for example, chickens, ducks, &c., in regard to all of which I believe, when the discs have not undergone disintegration, a first-rate 1-25 inch objective will enable us to determine easily and beyond all question.

"I would suggest to any one about undertaking such an investigation, that he first accustom himself to the appearance of decolorized blood-corpuscles, and at the same time test the power of his instrument by repeating the experiment detailed above on a fragment of blood-clot

recently desiccated upon paper or glass. Experience has shown that dried stains upon hard, smooth substances, such as buttons, studs, &c., most readily exhibit the corpuscles; next to these in ease of detection are stains upon paper collars or cuffs, and upon highly glazed linen; then those upon unstarched muslin or linen; and lastly, those upon cloth and other woollen fabrics. In order to be forearmed against the objections of ingenious counsel, he should in murder cases, wherever practicable, be provided with spots made before witnesses, with fresh blood from the corpse upon different unstained portions of the identical articles upon the supposed murderer's clothing, and also with specimens of blood dried in a thin film upon glass slides, for the purpose of disproving any hypothesis of leucocythæmia, or other blood diseases, which might alter the normal character or relative proportion of the blood elements.

"In examining the moistened clot, great care must be taken to avoid any movement of cover upon the slide, which, when it occurs, often rolls the interposed disc into an apparently homogeneous mass; and it is advisable to keep up a current of fresh water, at least until all tinge of colour is removed from the clot; otherwise none but the granular lymph-corpuscles may be visible.

"Through the courtesy of Dr. Linderman, Director, and Mr. J. R. Eckfelt, Chief Assayer, of the United States Mint, I was enabled to estimate the delicacy of the microscopic test for blood, as follows:—Upon a square of waxed paper, determined by Mr. Eckfelt, on the accurate balance used for the national assays, to weigh exactly forty-eight milligrammes, I made twenty dots of fresh blood from my finger, which, when dry, added $\cdot 4$ of a milligramme to the original weight, and, consequently, were each on an average equivalent to about $\cdot 02$ of a milligramme, or 1-3200th of a troy grain nearly. The fourth part of one of these spots, weighing, of course, in round numbers 1-12000th of a grain, was detached with the point of a cataract needle, and when moistened under the 1-25th showed many hundred well-defined red blood-corpuscles; ten circular ones among these, measured with the micrometer, averaged 1-3494th of an inch in diameter, and could, therefore, by this criterion of superior size alone, be diagnosticated from the corpuscles of an ox, sheep, or pig, with the same feeling of certainty with which any surgeon could testify that a perforation of the skull only half an inch across could not possibly have been made by a bullet measuring an inch in diameter."

ART. 76.—*On the Reaction of Phenic Acid on Strychnia.*

By Dr. PAULO BERT.

(*Annali di Chimica applicata alla Medicina*, April; and *British and Foreign Medico-Chir. Review*, October.)

Bert states that when phenic acid is added to a solution of hydrochlorate of strychnia, a liquid is obtained which is less active than the same dose of the pure salt when administered by the hypodermic method. When the phenic acid is removed from such a solution by means of

ether, the fluid becomes limpid, and is as poisonous as it was at first. The author has also shown that this process may be applied with success to the extraction of strychnine from putrefied animal matter.

ART. 77.—*On the Physiological Action of Atropine, Digitaline, and Aconitine on the Heart and great Blood-vessels.*

By FREDERICK B. NUNNELEY, M.D.

(*Scientific Opinion*, August 4.)

Dr. Nunneley's experiments with atropine lead him to hold that the poison exerts no influence on the blood vessels. On the heart the action of the poison is neither considerable nor energetic, a progressive weakening of power being the most prominent visible effect. Digitaline, on the contrary, acts with great energy on the heart, throwing it into violent and disorderly contractions, which quickly end in a cessation of movement. The frequency of the contractions is not increased, but is progressively diminished, and the functions of the heart are abolished very early, voluntary power surviving the death of the organ. This, again, is different from what occurs from aconitine, which, though it abolishes the functions of the heart in a very short time, abolishes still more quickly all the voluntary and reflex acts. The author's observations were made on frogs.

ART. 78.—*Toxicological Cases.*

By THOMAS STEVENSON, M.D.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Of these cases one was an instance of poisoning by prussic acid, one of death from inhalation of chloroform, one of poisoning by extract of nux vomica, one of belladonna poisoning, one of acute alcoholic poisoning, and one of poisoning by hydrochloric acid. The last four cases terminated in recovery. In the case of death from the inhalation of chloroform the patient was a farm labourer, aged thirty-three, a powerful, muscular man, who had always enjoyed good health. He was suffering from old distortion of the ankle-joint, for which it was proposed to divide the tendo Achillis, and to straighten the limb. The chloroform was administered at his own earnest request, although it turned out after his death that he had nearly died eight years before from the effects of that anæsthetic. He died from asphyxia, and different solid and fluid parts of the body were submitted to analysis in order to detect chloroform. The process consisted in employing Duroy's method, by which the chloroform is decomposed into chlorine, hydrochloric acid, and other products, and the two first-named substances are absorbed by nitrate of silver, giving rise to white chloride of silver. Dr. Stevenson

observes that this is the only English case that he knows where chloroform has been detected in the human body after death by its inhalation.

SECT. IV.—THERAPEUTICS.

ART. 79.—*Sleep-producing Agents.*

By WILLIAM A. HAMMOND, M.D., Professor of Diseases of the Mind and Nervous System in the Bellevue Hospital Medical College, etc.

(*Detroit Review of Medicine and Pharmacy.*)

In an article on wakefulness, Professor Hammond states that *phosphorus* is a remedy which has come into use recently in treating wakefulness. It is supposed to act by supplying a deficiency in the elements of the nervous tissue. It is not easily administered, owing to its chemical properties. In the form of phosphorated olive oil, in the proportion of four grains to the ounce, it can be given. It is preferable, however, to boil twelve grains of phosphorus in one ounce of almond oil, and filter. The oil absorbs four grains of phosphorus, so that each minim contains one-one-hundred-and-twentieth of a grain. Half an ounce of the oil is now mixed with an ounce of gum-arabic, and fifteen drops of some aromatic oil are added. Of this mixture the dose is fifteen drops, equal to five drops of the phosphorated oil, and containing one-twenty-fourth of a grain of phosphorus.

He has used this remedy generally with success. Three doses are given before bedtime, and thus far have generally succeeded in producing the desired effect on the second day, if not on the first. The dose may be increased a drop a day, till twenty drops are taken, or signs of gastric irritation supervene.

Another remedy which he has used of late, especially in cases of nervous excitement where a sedative seemed indicated, is *sumbul*. This plant combined with bromide of potassium is given in epilepsy, with the result of increasing the effect of the latter. The dose of the fluid extract (Neergaard's) is from twenty drops to a drachm three times daily.

ART. 80.—*Carbolic Acid in Scarlatina.*

By H. T. CLEAVER, M.D.

(*The Iowa Medical Journal, and Medical Record, August 16.*)

Dr. Cleaver states that he has been much surprised by the almost immediate relief afforded by the application of carbolic acid to the inflamed throat in scarlatina. He has used his remedy in 70 cases in the late epidemic in Iowa, in all stages of the disease, and prefers carbolic acid to chlorate of potash and chlorate of iron, as a palliative and curative application. The only unpleasant symptom he has observed after its use in greater strength than he ordinarily administered

it, is a temporary impairment of power of deglutition. That it has the power of lessening the exalted action of the heart, and quieting the delirium so uniformly met with in scarlatina, he has no doubt. It modifies the action of the poison, and to some extent averts the disease. In none of the cases where it has been used have dropsical effusions occurred as a sequel, such as he has observed in cases treated with other remedies.

The following is his usual prescription: \mathcal{R} Carbolic acid, $\mathfrak{z}\text{ij}$., dilute alcohol, $\mathfrak{z}\text{ij}$. Mix a teaspoonful of this to a tablespoonful of water, used either as gargle or with the mop, depending upon age and ability to gargle—say once every two hours. Of the same give 10 to 20 drops in muc. acacia at same intervals; dose depending upon age of patient.

ART. 81.—*On the Use of Arsenic in the Treatment of Pulmonary Phthisis.*

By Dr. MOUTARD-MARTIN.

(*Bulletin Général de Thérapeutique*, November 15, 1868; and *British and Foreign Medico-Chir. Review*, October.)

Dr. Moutard-Martin records the results of his own experience in the arsenical treatment of phthisis, and he states that before the year 1861 he was in the habit of administering the arsenious acid in the dose of 5 milligrammes to 2 centigrammes (a centigramme and a milligramme are respectively the $\frac{1}{100}$ th and the $\frac{1}{1000}$ th of a gramme, which is equivalent to about 15 grains of English measure) to all the phthisical cases under his care in the Hôpital Beaujon in every stage of the disease. At that period he found that in a great number of cases there was a return of the appetite and of the general health and strength, but that the state of the lungs was not commensurately improved. Since 1861 he has continued this treatment, both in hospital and in private practice, and he now announces that he has in certain cases effected a complete cure of the disease. The arsenical treatment has not, he thinks, engaged sufficient attention among physicians in consequence of the general incredulity as to the possibility of curing phthisis at all; but now that the curability of the affection is proved, the partial success of arsenic ought to encourage the profession to a more extensive employment of that drug. Dr. Moutard-Martin divides the patients treated in the hospital into two groups, namely, those who are without fever or diarrhœa and who retain their appetite, and those who have fever, either continuous or intermittent, and who suffer from abundant sweating, loss of appetite, diarrhœa, and vomiting. Among the patients included in the first class some have distinct cavities in the lungs, while others present only crude tubercles or tubercles in a state of softening. In any of these cases, under the use of arsenic, the appetite increases, the strength is restored, the complexion becomes brighter, and the weight increases; but the patients then often request to be discharged from the hospital, and they soon return with an aggravation of their symptoms. Dr. Moutard-Martin attributes this relapse to the discontinuance

of the treatment, the continuity of which can alone secure success, and to the insalubrious conditions in which they ordinarily live. He relates a case in which not only the general symptoms were relieved, but the local phenomena were modified in a favourable manner. He does not, however, believe that the tubercles disappear under the treatment, but he thinks that the surrounding pneumonia is diminished, and that if the arsenical treatment were continued long enough even a cavern might be modified so as to be reduced to an inert cavity surrounded by healthy pulmonary tissue. The patients admitted into the hospital under more unfavourable conditions, as with fever, sweating, and diarrhoea, were also relieved by the arsenical treatment, but the beneficial results are not so rapid or so constant. Dr. Moutard-Martin relates some other cases of striking benefit obtained from the arsenical treatment, and he believes that they are sufficient to give encouragement, and to prove that pulmonary phthisis may be cured, even at an advanced period, and that although it is not cured, it may be frequently relieved.

ART. 82.—*On the Therapeutical Use of Digitalis.*

By Dr. S. KERSCH, of Prague.

(*Schmidt's Jahrbücher der Gesammten Medicin*, March 20, 1868; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Kersch has employed digitalis in twelve cases of pneumonia, five of pleurisy, and fifteen of typhus. In the two former, as long as the exudation continued, he found that there was no effect upon the pulse, but always on the discontinuance of the exudation the result was remarkably beneficial. In typhus the pulse became only irregular, but never diminished in frequency. Dr. Kersch found digitalis especially useful in those cases of cardiac disease in which the chief feature was an organic change in the valves or openings, and in which the pulse was accelerated, generally small, and always irregular, so that a few powerful and slower pulsations alternated with some weaker, smaller, and more rapid ones. After a continued use of the digitalis the pulse became in such cases not only slower, but also completely regular, strong, and uniform. An important condition for the employment of digitalis, according to Dr. Kersch, is that the blood should be in a normal, that is to say, uninflamatory state, and that the patient should not be cachectic, leukæmic, or anæmic, for in such cases Dr. Kersch has never observed any success to follow the use of the drug, unless the poisonous effects produced by increased doses can be considered desirable results. As to the cases in which digitalis was employed unsuccessfully, Dr. Kersch believes that the influence of the drug on the permanently altered nerves is rendered nugatory, because by their continually deficient or abnormal nutrition as a result of the preceding long-continued anæmia, or of the abnormal constitution of the blood, as, for instance, in its structure or its proportional amount of fibrine, an irreparable alteration is developed.

ART. 83.—*The Hypophosphites of Lime and Soda in Consumption.*

By RICHARD PAYNE COTTON, M.D., F.R.C.P., Senior Physician
to the Hospital for Consumption, Brompton.

(*Medical Times and Gazette*, December 12, 1868.)

In pointing out the errors into which Dr. Churchill* has fallen, Dr. Cotton writes—

“In the first place he tells us that of my twelve cases treated by the hypophosphites (*Lancet*, April 25 and May 2, 1863), eight were improved, four of which number he even says were cured. If your readers will refer to the papers, they will find that six only improved, and that these six did just as well, and in at least two instances apparently better, under other treatment; and that, so far from the hypophosphites doing any good, they were perfectly innocent of any effect whatever.

“Dr. Churchill boasts of having ‘demolished’ my arguments in the pages of his book. I need hardly remark that such a mode of demolition is very easy, but not very convincing. Dr. Churchill asks why I did not try carbonate of soda first, and afterwards the hypophosphites. He must have seen in the papers that he has criticised and so completely ‘demolished’ that I had done so, and with the same result so far as the effects of the hypophosphites were concerned.

“I would remind Dr. Churchill that others besides myself have tried the hypophosphites, and with similar results. My colleague, Dr. Quain, gave them in twenty-two cases at the Hospital for Consumption, and found that ‘no effect was produced; nothing more being felt by the patient or noticed by the physician than if so many grains of carbonate of soda or prepared chalk had been taken’ (*Lancet*, March 17, 1868). Dr. Risdon Bennett also tried them at the Victoria Park Hospital, and found ‘no specific nor anti-tubercular action, nor any special influence exerted by them on any one function of the body’ (*Medical Times and Gazette*, April 27, 1861.)

“Dr. Churchill tells us, in proof of their usefulness, that his alkaline salts ‘have spread over the whole civilized world,—from Russia to Australia, and from India to Peru.’ I would merely remark that if I, or any one else, were to advertise a ‘specific remedy for consumption’ in several European languages, it would insure for it the like ubiquity. Dr. Churchill finally tells us two facts—(1) that the hypophosphites of soda and lime were introduced by him as ‘the specific remedy for consumption,’ ten years ago; and (2) that within the last two years phthisis, according to the report of the Registrar-General, has greatly decreased in mortality. Admitting the facts, I confess that I am at a loss to see their connexion. If it be a logical one, I must leave its recognition to my professional brethren, confessing that I am too obtuse to see it. I hope that my colleagues and myself have done something towards this happy result, but if so, it has been without the aid of the

* See *Half-yearly Abstract*, vols. xlviii. and xlix.

alkaline hypophosphites, since these have not been employed for some years, except in the experiments I have referred to, at the Hospital for Consumption at Brompton."

ART. 84.—*On Some of the Effects of the Bromide of Potassium, when administered in Large Doses.*

By WILLIAM A. HAMMOND, M.D., Professor of Diseases of the Mind and Nervous System in the Bellevue Hospital Medical College, etc.

(*Quarterly Journal of Psychological Medicine*, January.)

Without going into a detail of all the physiological and therapeutical effects which result from the employment of bromide of potassium, Dr. Hammond points out some of those which occasionally ensue after its use in large doses. This is appropriately done by relating the particulars of several cases which have come under his immediate notice.

The symptoms due to large doses of the bromide may be stated as follows, in the usual order of their occurrence :—

1. Contraction of the pupils.
2. Drowsiness.
3. Weakness of the arms and legs.
4. Depression of mind.
5. Failure of memory.
6. Delusions.

The first three of these are, Dr. Hammond thinks, usual accompaniments of an active dose of the medicine—one capable of producing an influence over such an affection, for instance, epilepsy. They simply show a sedative effect due to cerebral anæmia. In adults, they never, so far as the author's experience goes, follow a less dose than ten grains. Doses of five grains produce no obvious effect.

No permanent difficulty results from very large doses of the bromide; all the symptoms due to it ceasing soon after the administration is stopped. In some diseases, such as epilepsy and paralysis agitans, it is frequently necessary to push the medicine to the utmost limit of endurance, before its power is manifested.

Dr. Hammond always administers the drug in a largely-diluted form—not only with the view of avoiding the nausea and purgation due to concentrated saline solutions, but in order to secure its more ready absorption.

ART. 85.—*On the Effects of Podophyllin.*

By Dr. PIETRO, of Venice.

(*Giornale Veneto di Scienze Medice, and British and Foreign Medico-Chirurgical Review*, October.)

Dr. Pietro has made some experiments in relation to podophyllin, both on himself and on some patients. The drug is employed in the

Venetian hospitals in the dose of from 15 to 20 centigrammes; it has been given there on a large scale, and almost always alone, for relieving constipation, and it has generally only been used in chronic cases. In all it has produced purging, preceded and accompanied by colic. A dose of 5 centigrammes (1-20th of a gramme) generally causes three or four liquid stools.

Dr. Pietro, in the experiments on himself, found that after the introduction of the medicine he felt nausea, and a little irritation of the stomach, but the symptoms disappeared when he went to bed; and in the morning there was an evacuation of liquid matter, coloured yellow, and every hour for five hours the evacuation was repeated. A few days afterwards Dr. Pietro took a double dose, namely 10 centigrammes, and immediately there were nausea, and attempts to vomit, which lasted about two hours. At the end of four hours there was shivering and a feeling of prostration. The night was passed pretty well, but in the morning he was awake early by violent colic, followed by liquid stools, which were repeated till nine o'clock. Dr. Pietro draws the following conclusions from his experience:—1. Podophyllin is always purgative, even in minimum doses. 2. It is suitable for all cases where drastic purgatives are indicated. 3. It produces an effect without causing uneasiness, in the dose of 5 centigrammes. 4. It may be united with some sedative substance.

ART. 86.—*On the Action of Digitalis in Typhoid Fever.*

By ERNST HANKEL, M.D.

(*Archives der Heilkunde*, April.)

Dr. Ernst Hankel has reported the results of investigations made on eighty cases of typhoid fever, under the care of Wunderlich, which were treated by the administration of an infusion of digitalis—1½ or 2 grammes to 180 grammes. The following were the chief results:—1. Digitalis, administered in suitable quantity in typhoid fever, always produces a considerable diminution of fever, lasting for several days, and lowers the pulse for some weeks. Hence the use of the drug is indicated in cases in which the temperature in the evening attains the height of 40°·5 C. (105° Fahr.), and in the morning presents only slight intermissions; also in cases in which the contractions of the heart are 120 or more in the minute; particularly when these signs occur in the second week of the attack. 2. Digitalis lessens the delirium, and is indicated whenever this symptom coexists with unusual height of temperature and frequency of pulse. 3. The pulse, especially when small, becomes fuller after the administration of digitalis. 4. The administration of the drug is not contraindicated by albuminuria, or even by Bright's disease. 5. With proper caution on the part of the medical attendant, dangerous and deadly collapse need not be feared. Digitalis may be given without danger to anæmic and depressed patients. 6. A tendency to hæmorrhage is not much increased by administering digitalis. The infusion may be even continued during bleeding, if this be not very profuse. 7. Gastric catarrh is increased naturally by digitalis.

8. The duration of the attack is prolonged under the influence of digitalis, so that this remedy ought only to be administered in cases where danger is threatened by fever, low pulse, and cerebral symptoms.

ART. 87.—*Rheumatic Paraplegia cured by Nitrate of Silver.*

By Dr. LOUIS CARADAC, of Brest.

(*Gazette Hebdomadaire*, Second Series, t. v. 1868; *Schmidt's Jahrbücher*, Bd. 242, p. 26.)

A cook, aged thirty-eight, fell, thirteen years previously, on his back, and from that time had a marked tumour in the dorsal region, without any disturbance of the general health. A year later pains came on in the loins, with pains, paresthesia, and weakness in the legs, which, however, again disappeared. The patient then remained healthy, with the exception of slight twitching pains, till after eleven years he took a house in a damp and generally unhealthy locality. Then he became subject to very severe pains, which presently fixed themselves in the shoulder and back. In this state of things he again had a severe fall on the back, bruising it considerably. This local injury was quickly cured, but the pains returned, and were specially localised in the back and arms. A variety of means were employed without benefit; the pains more and more affected the loins and the legs, and became especially and extremely severe on any movement. Then came on marked hyperæsthesia of the skin of the legs, twitchings of the muscles, and gradually increasing palsy of them, with paresis of the sphincters, and diminished expulsive power of the intestines and the bladder. After a time there was complete paraplegia, with also disappearance of the hyperæsthesia. After the paralysis had lasted a year, in spite of the various remedies employed by several physicians and quacks, Dr. Caradac determined to try lunar caustic. He gave it in gradually increasing doses, from one up to eight centigrammes in the day; after three weeks there was decided improvement of sensibility and mobility, and after three months the patient could move about so freely, though somewhat stiffly, that he was able to take a situation as ship's cook. This he kept for five years, and remained healthy all the time, though at the beginning of it he was shipwrecked, and took an involuntary bath of half an hour's duration.

Dr. Caradac considers that the paraplegia was the effect of a rheumatic spinal meningitis and secondary compression of the nerves, and that the remedial action of the nitrate of silver was indisputable, and ought to be resorted to in similar cases.

ART. 88.—*On the Use of Antiseptic Cere-cloth for Covering Wounds.**

By EDWARD LUND, F.R.C.S., Lecturer on Anatomy, and one of the Surgeons to the Manchester Royal Infirmary.

(*British Medical Journal*, September 4.)

This material is, as the name implies, cloth or thin calico saturated with waxy matter in the form of solid paraffin, to which are added a little oil and wax, with carbolic acid in certain proportions. It possesses this double property, that, when placed over a wound, ulcer, or the opening of an abscess, it not only serves to exclude the air as an impervious dressing to the part, but it constantly emits from its surface the vapour of carbolic acid, as it is disengaged by the heat of the body, and so forms an antiseptic atmosphere around the wound.

It will be found an economical and ready substitute for the antiseptic lac plaster of Professor Lister.

The exact formulæ for the cerates with which the calico is saturated are as follows: the form in each case being intended for twelve fluidounces of the cerate in the liquid state—enough to spread about one square yard and a half of the cere-cloth. The quantities are to be measured by bulk, and not by weight—that is, for the carbolic acid and the oil, as well as the paraffin and the wax which have been previously liquified; for Mr. Lund finds that in this way he gets a greater uniformity in the composition.

No. 4, or the strongest form of the cerate, is composed of pure carbolic acid, Calvert's, *liquefied*, fʒiij; olive oil (coloured red with alkanet-root, to distinguish the cerate), fʒiiss; yellow wax, *liquefied*, fʒiiss; paraffin, *liquefied*, fʒvj. Mix.

No. 6, the next in strength, and of a yellow colour, is composed of pure carbolic acid, fʒij; olive oil, fʒiiss; yellow wax, fʒiiss, paraffin, fʒv. Mix.

No. 8, the weakest, which should be nearly white, is composed of pure carbolic acid, fʒiiss; olive oil, fʒj, fʒvj; white wax, fʒj, fʒvj; paraffin, fʒvij. Mix.

In the preparation of the cere-cloth the author writes solid paraffin is used as the basis of the composition with which the cloth is saturated. It has these advantages: the paraffin in itself is not at all irritating to the skin; and, when made into cere-cloth, it adapts itself easily to the surface to which it is applied, moulding itself to any peculiarities of form by the warmth and gentle pressure of the hand, at the same time that it is in no way adhesive, as ordinary ointment or cerates would be; and, therefore, when it is required to be removed, it can be raised or slid off from the surface with the least possible disturbance, and a fresh piece placed in its stead. The mixture of solid paraffin oil, wax, and carbolic acid, in the proportions above mentioned, does not liquefy much below 190° Fahr.: so that it retains its solid form at the ordinary tem-

* Read in the Surgical Section at the Annual Meeting of the British Medical Association, in Leeds, July, 1869.

perature of the body, the vapour only of the carbolic acid being slowly dissipated. It is likewise an inexpensive material—a matter of no small importance in public practice.

In using the cere-cloth for dressing wounds, although it is important to bear in mind that the exact size and quantity to be employed must vary with the extent and depth of the wound to be covered, and the time which is to elapse before its re-application, yet it is always prudent not to use carbolic acid at a greater strength or for a longer period than is really needed to prevent or check putrefactive changes. As soon as these have ceased, or, after a reasonable time, have not manifested themselves by the presence of fœtor, the weaker the carbolic preparation the better; for there can be no doubt that carbolic acid is an irritant, and in some constitutions a very powerful irritant: hence it becomes a cause of protracted suppuration by over-stimulation. How to adjust the exact strength of the application in any given case is a matter of great difficulty; and it is doubtless one reason why many surgeons, who have given carbolic acid a trial with the object of averting putrefaction, have ceased to use it, thinking that at times it seemed to do more harm than good.

To obviate these difficulties, Mr. Lund makes the cere-cloth of three degrees of strength, as it contains one-fourth, one-sixth, or one-eighth of carbolic acid. The strongest quality is needed in the arrangement of the early stages of a wound; the others are more useful while cicatrization is going on.

ART. 89.—*Clinical Therapeutics.*

By S. O. HABERSHON, M.D.

(*Guy's Hospital Reports*, vol. xiv.)

The object of Dr. Habershon in this communication is to show that in treating disease the whole history of each case should be studied, and more especially the antecedent conditions of the patient, for the existing malady may be only the result of some latent organic mischief, or of some constitutional taint, which may either impede the cure, or even render a cure impossible. Dr. Habershon sums up his views under a few heads, the general conclusion being that successive stages of the same disease are very apt to be mistaken for new ailments; that acute changes in the system are always modified by former diseases; that the intensity of the influence of the former malady lessens according to the interval of time since the attack; that when two diseases concurrently affect a patient, the one modifies the other in an important manner; that a general affection has a more powerful effect than a local one, but that local disease, especially when symmetrical in character, is the expression of a constitutional malady; that when we attempt to relieve organic local disease by diminishing its more prominent symptoms, great care must be taken lest the original malady may be increased; that any true antagonism of disease is very doubtful, and that the surrounding circumstances should conduce if possible to the restorative process.

ART. 90.—*On the Action of Veratrin.*

By M. PÉGAIKAZ.

(The Lancet, November 13.)

A very careful investigation of the therapeutic properties of veratrin has recently been made by M. Pégaitaz, who has published his results in the *Deutsches Archiv für Klinik Medicin* for last month. He describes its effects both when taken internally and when subcutaneously injected; and finds them almost precisely the same, being as follows:— In the earlier stages, excitation; subsequently depression. Then follow in succession, salivation, nausea, sensation of choking, vomiting, and usually diarrhoea. The voluntary movements become unsteady, the want of power displaying itself first in the posterior, and subsequently in the anterior, limbs; accompanying this there appeared to be a certain degree of stiffness. There was coincidently exaltation of the reflex sensibility and diminution of the sensibility. The temperature, the number of the respiratory acts, and of the beats of the heart, were all transiently diminished. Convulsions and tetanus finally set in; but careful examination failed to discover any indications of inflammatory mischief. Experiments made with a view of testing its applicability as a remedy which might be used hypodermically seem to have been unsatisfactory; showing that whilst it acts in this way similarly to its operation when given by the mouth, yet the injection produces very great pain.

ART. 91.—*On the Febrifuge Properties of Quinia, and its Efficacy in Pulmonary Consumption.*

By Dr. LIEBERMEISTER.

(Schmidt's Jahrbücher der Gesammten Medicin, February 20, 1868.)

Dr. Liebermeister has formerly contributed some observations on the febrifuge properties of quinia in abdominal typhus, and in his present paper he shows that the alkaloid acts in a similar manner in some other febrile diseases, such as the purulent fever of variola, erysipelas faciei, acute articular rheumatism with or without heart disease, pneumonia and pleurisy; but his communication is especially interesting in reference to the febrifuge action of quinia in pulmonary phthisis. This action is the more conspicuous in the fever which accompanies pulmonary tubercle, the higher the degree of the fever is and the more it approximates to the continued character. Dr. Liebermeister therefore maintains that the general opinion as to the efficacy of quinia in phthisis being especially remarkable in cases having an intermittent type is erroneous. He recommends accordingly that the use of the quinia should be continued in large doses for a considerable time, in order that the local symptoms may be improved by the relief of the accompanying fever. He relates a case of phthisis in which caverns had already developed themselves in the lungs, but in which, under the use of quinia (combined with digitalis), the patient recovered his weight, and was able to resume his

work, although he had a subsequent relapse. Dr. Liebermeister, while admitting that the use of quinine (with digitalis) is not successful in all cases of phthisis, thinks that it ought to be tried even in advanced cases of that disease. But the most useful field for treatment in pulmonary consumption is at the commencement of the disease, and in this stage the combination of quinia with digitalis is especially serviceable.

ART. 92.—*On the Use of Tincture of Green Hellebore (Veratrum Viride) in Inflammation of the Lungs.*

By Dr. DRASCHE and Dr. KIEMANN.

(*Schmidt's Jahrbücher der Gesammten Medicin*, November 25, 1868; and *British and Foreign Medico-Chir. Review*, October.)

Dr. Drasche considers that the treatment of inflammation of the lungs by veratrum viride offers one of the most remarkable examples of the cure of an acute inflammation. The operation of the drug is most clearly and most early manifested in its effect on the fever, and after the first doses, or after a few hours, a partial or general diminution of the febrile symptoms is manifested. This effect is exhibited in all the stages of pneumonia, but it is far less certainly or constantly present in pleurisy, tuberculosis, and typhus. The pulse is diminished in rapidity and strength, and in one case recorded it was reduced twenty beats within two hours after two doses of the tincture. Together with the pulse the temperature also falls almost regularly from one to four degrees, and this fall remains even after the veratrum is discontinued, and when the pulse rises. The effect of the drug upon the breath is less constantly observed, but for the most part there is relief of suffering. Among the inconveniences of the use of the veratrum in pneumonia the most common is vomiting, and sometimes there is diarrhœa, and occasionally hiccough. Dr. Drasche thinks that the veratrum not only controls the fever but also the local disease of the lungs. When it is administered in the course of pneumonia with yellow sputum and violent fever, the peculiar expectoration disappears in a short time, together with the cessation of the febrile symptoms, and auscultation and percussion prove that the local disease is arrested. But if the medicine is discontinued, as, for instance, on account of vomiting, the fever and the expectoration return, and the hepatisation advances. Dr. Kiemann, who observed a great number of cases of pneumonia, in connexion with Dr. Drasche, in hospital practice, and has described forty of them with accuracy, agrees with the latter physician as to the efficacy of the veratrum. Of the forty cases treated, thirty-five recovered and five died. A table is given of the period when resolution of the pneumonia was established in the successful cases, the commencement of the disease being reckoned from the occurrence of shivering, and the end from the time when the vesicular breathing returned in the formerly hepatised lungs. The period, as shown in the table, varied from the eighth to the twenty-sixth day. The fatal cases were considered very serious on their admission, and were complicated with other diseases besides pneumonia. Vomiting

was present in more than half of the cases treated by veratrum, but it ceased generally some hours after the discontinuance of the drug. Hiccough seldom occurred, and when it did it was relieved by ice or soda-water. Diarrhœa supervened in one third of the cases, but gastro-enteritis was never observed in the post-mortem examination, and collapse never occurred. Dr. Kiemann observed diminution of the pulse under the use of veratrum not only in pneumonia, but also in diseases of the cardiac valves, endocarditis, pleurisy, and bronchitis. In a fatal case of scarlatina 20 minims of the tincture of veratrum viride reduced the pulse in two hours from 168 to 104 beats, while the temperature rose from 41° to 42°. In two cases of typhus and in different cases of tuberculosis no effect was observed on the fever.

ART. 93.—*Experiments with Pancreatic Juice.*

By MM. CHAUVIN and MORAT.

(*The Lancet*, October 16.)

In the Academy of Sciences of Paris, M. Chauvin and M. Morat have recently read a paper "On the Pancreatic Juice," and the conclusions at which they have arrived are—first, that the general results of their experiments on artificial digestion with this fluid agree with those made by older experimenters, from Eberle to Claude Bernard. Secondly, that in such experiments with artificial digestion the action of the pancreatic juice is not checked by the presence of gastric juice, nor by hydrochloric acid considerably diluted with water. Thirdly, that at ordinary temperatures, and in inert vessels, the juice does not act so energetically as when maintained at the temperature of the body, and under the influence of the movements of the digestive fluid. Fourthly, in the digestion that ordinarily takes place in the stomach—and this is a capital point—the pancreatic juice preserves its energies intact, notwithstanding the presence of the gastric juice, and may initiate in the interior of the stomach a complete digestion of the three species of alimentary substances. And, lastly, they state that in a clinical point of view they have obtained remarkable results with the aid of pancreatic juice and extract.

ART. 94.—*On Charcoal Respirators.*

By WILLIAM MARCET, M.D., F.R.S., Assistant-Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

(*The Lancet*, November 6.)

From experiments made by Dr. Marcet, it appears that a charcoal respirator will not only warm the cold air breathed out of doors, but will also impart additional heat to the air of a room comfortably warm, although considerably under the temperature of the body; and it is questionable whether, in certain cases of excessive irritability of the throat or bronchi, the indoor use of the respirator may not be attended

with advantage. Dr. Marcet's experience is now tolerably extensive as to the out-door use of the respirator in winter time; a number of his patients at the Consumption Hospital are wearing them in cold or foggy weather, or to rid air of smoke or other impurities, and they all agree as to the comfort and benefit they experience from their use.

The charcoal respirators are manufactured by Mr. Rooff, of No. 7, Willow-walk, Kentish-town.

ART. 95.—*On the Value of Tincture of Cantharides in some Forms of Pyelitis.*

By EDWARD MACKEY, M.B., of Birmingham.

(*British Medical Journal*, June 26.)

In support of the opinion that tincture of cantharides exercises a beneficial operation in certain forms of pyelitis, Dr. Mackey relates two cases treated by himself some years ago. In the first case, that of a female, the earliest symptoms were observed when the patient was only ten years old, and consisted of smarting pain in the urethra, with frequent calls to pass urine, and violent pain in the right loin, darting downwards. She did not suffer very severely, however, till long afterwards, when she was treated at the Bristol Hospital, and subsequently at the Leeds Infirmary, for symptoms indicating great irritation of the kidneys, and attended with the excretion of pus with the urine. She was sounded by Mr. Teale for stone, but none was found. In July, 1865, Dr. Mackey saw her, when she was suffering from constant calls to micturition, with great pain along the course of the right ureter, and the urine was found to contain pus. After a number of different remedies had been tried, the tincture of cantharides was administered in doses gradually increased from one to fifteen drops, and at the end of a fortnight she was decidedly easier, and continued so as long as she took the medicine. Although she was relieved, however, she was not eventually cured. In the second case pus was noticed in the urine when the patient was sixteen years old, and micturition was frequent and painful. Dr. Mackey saw her in the year 1866, and administered the tincture of cantharides in the dose of three minims with considerable relief, but she eventually died in 1867, and on a post-mortem examination one kidney was found atrophied, and the other contained several calculi.

ART. 96.—*Action of Veratrum Viride and V. Album.*

By Dr. OULMONT.

(*American Journal of Pharmacy*; and *Pharmaceutical Journal*, October.)

Dr. Oulmont (*Neues Repertorium für Pharmacie*, 1868, Bd. xvii. Heft 3, p. 177) publishes some interesting observations and experiments made on man, dogs, rabbits, and frogs with *Veratrum viride*. When small, non-fatal doses were given to the lower animals, the symptoms were

localized chiefly in the digestive, respiratory, and circulatory systems, and on the general force. In the digestive system they consisted of nausea, of vomiting, which sometimes lasted for twenty hours, and of diarrhœa. If doses sufficient to cause death were administered these symptoms occurred in an excessive degree, but no signs of inflammation could be discovered. The respirations were powerfully affected at an early stage; they were sometimes unequal and irregular; they were sometimes diminished in number to two or even one in the minute; and in frogs they were sometimes altogether stopped. The rapidity of the circulation was soon diminished, the pulse being often reduced within fifteen minutes by from twenty to forty beats in the minute. The effect on the temperature was somewhat less marked. It falls two, three, or five degrees in from an hour and a half to two hours, and it may remain at this reduced point as long as twenty-four hours. The hyposthenic action is nearly immediately produced, and the weakness and sinking of the general force are prominent effects of large doses; but even when these are sufficient to cause death, neither muscular stiffness nor convulsions ever occur. The latter symptoms, however, are the special characteristics of the action of veratria. For the purpose of comparison, Oulmont examined the action of *V. album*. He found that it is distinguished from that of *V. viride* by the greater violence of its effects on the digestive system, where it always produces inflammatory lesions, and by the greater rapidity of its action. Finally, the action of the alkaloid veratria was investigated with the somewhat unexpected result that it is not the true active principle of veratrum. Some *V. viride* was completely freed from the alkaloid, and an ordinary dose given to an animal; the effects were in all respects the same as those in the usual preparation. Oulmont concludes that *V. viride* is a cardiac poison analogous to *Digitalis*, from which it is distinguished by its extraordinary rapidity of action. The investigation is of special interest as, until now, a considerable amount of uncertainty has existed as to its exact physiological action.

ART. 97.—*Notes on Three new Anæsthetics: Bromoform, Bromal, and Iodal.*

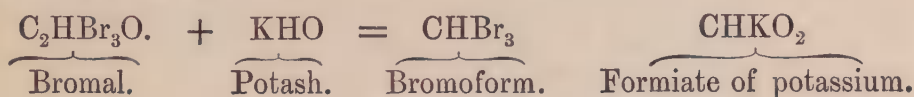
By Dr. RABUTEAU.

(*Gazette Hebdomadaire*, No. 43.)

The analogy which exists between various bodies considered from a chemical point of view, may be often carried into their physiological effects. Thus I have thought that bromoform might possess physiological properties analogous to those presented by chloroform, and that bromal and iodal might produce upon the animal organism, effects resembling those caused by chloral.

Experience has confirmed my anticipations. Still the experiments that I have made as yet are not sufficiently numerous to permit me to lay down a definite judgment. My present intention is to make known the results that have been already obtained, and I intend to continue with activity the study of these new anæsthetics.

Bromoform.—This body is very little known to chemists. I have prepared a small quantity for myself, by decomposing with potash bromal which I had previously obtained. This latter agent acts in fact like chloral; that is to say, that it, under the influence of bases, affords bromoform and a formiate.



The liquid which I obtained was distilled at between 60 and 65 degrees, and presented chemical and organoleptic properties completely analogous to those of chloroform, so that it might have been readily confounded with the latter agent. The following, however, is one of the differential characters: whilst chloroform in dissolving iodine is coloured a violet blue, bromoform in dissolving the same metalloid, is coloured a splendid carmine red.

A rat when placed in a glass vessel containing a piece of sponge saturated with from five to six drops of bromoform, was put to sleep, and anæsthesized completely in the course of half a minute or a minute; the anæsthesia lasted from two to three minutes. One may cause this condition to last indefinitely by continuing the inhalations of bromoform. The animal afterwards recovers completely.

I wished to anæsthesize a dog by making it respire bromoform, but the quantity of fluid which I had at my disposal was too small. Still, I obtained complete anæsthesia, although the animal was not thrown into a deep sleep like the rats upon which I had performed my previous experiments. I could pinch and prick the paws and tail of the animal without its evincing the slightest sensibility. Its pupils were very much dilated.

The results of these first attempts seem to me to put bromoform before chloroform. Bromoform, in small doses, probably causes anæsthesia without producing a deep and dangerous sleep.

Bromal.—This body differs only from chloral in the single fact that the chlorine of the latter agent is replaced by bromine. Its formula is: $\text{C}_2\text{HBr}_3\text{O}$. I have obtained it in the form of a crystallized hydrate, $\text{C}_2\text{HBr}_3\text{O} + \text{H}_2\text{O}$. Its odour resembles that of chloral. When handled, it soon causes lachrymation and a nasal flux.

The first researches made with this agent led me to consider it as an analogous body to chloral, from a physiological point of view. A rat, under the skin of which is injected a small dose of this compound dissolved in water, begins to sleep in from five to ten minutes.

Iodal.—The management of this agent is extremely difficult, as it becomes volatile at 25 degrees. I prepared for myself a certain quantity of this compound by the ordinary proceeding which consists in treating iodine by a mixture of alcohol and nitric acid. It is decomposed under the influence of bases like chloral and bromal; that is to say, that it furnishes iodoform and a formiate. Like bromal, this agent powerfully excites lachrymation.

I have experimented by injecting from five to six grammes of iodal into the rectum of a dog. The animal was rendered anæsthetic, but had convulsions and succumbed. The blood was black; the flesh was

unusually red, and the mesentery, brain, and spinal cord were congested; in fact the dose was too large. Death consequently resulted, and the animal presented similar lesions to those caused by a poisonous dose of chloral.

The breath of this dog gave out the odour of iodal to a very marked degree; a proof that the iodal had not been decomposed in the organism, or at least, that it had undergone but a partial decomposition, if indeed this had taken place.

ART. 98.—*On the Treatment of Epithelioma by Chlorate of Potash.*

(*Rev. Clin. di Bologna*, March; and *British and Foreign Med.-Chir. Review*, October.)

The treatment of cancroïd affections by chlorate of potash was recommended by M. Bergeron in 1864, but since that time experimental researches on the subject have been neglected. Lately, however, two cases have occurred in the practice of Professor Magni, of Bologna, in which the results of this mode of treatment have proved very satisfactory. In one case, after a blepharoplastic operation for an ulcerated epithelioma of the internal angle of the left eye in a man of fifty-two, a relapse occurred and a large ulceration of the lower eyelid was observed, which had destroyed the corresponding *ala nasi*. The moveable wall of the lachrymal sac was involved, as well as the corresponding edge of the upper eyelid. The part was dressed three or four times a day with a solution consisting of 8 grammes (a gramme is about 15 grains) of chlorate of potash in 120 grammes of water, and at the same time 50 centigrammes (about $7\frac{1}{2}$ grains) of the salt were administered internally, and after a month of this treatment the ulcer improved in appearance, its edges became smooth and soft, its base became clear, and the neoplastic vegetations diminished. Two months afterwards cicatrisation was complete except at the angle of the upper lid. In the other case the result was equally successful, but the relapse was more recent and the ulcer less extensive. After cauterisations with nitrate of silver and the acid nitrate of mercury had been employed unsuccessfully, the chlorate of potash, used externally and internally, effected a complete cicatrisation at the end of a month. In a third case, considerable improvement was observed from this treatment in a case of epithelioma of the forehead, but the cure was not complete at the time of the report.

ART. 99.—*On the Effect of Corrosive Sublimate in improving the Constitution.*

By Dr. H. ALMES.

(*L'Union Médicale*, July 31.)

Dr. Almès confirms the opinion given by other French physicians as to the beneficial effects of corrosive sublimate in improving the consti-

tution; by which it is meant, that this drug not only cures the specific malady for which it is administered, but that it likewise restores the general health. Dr. Almès was struck, in the year 1856, with the extraordinary powers of arsenic in improving the condition of the body, and he made experiments with other toxical agents, such as tartarised antimony, perchloride of mercury, bichromate of potash, nux vomica, &c., with a view of determining if they possessed similar properties, and the result was that he found all these poisons, in small doses, acting as restoratives on the nutrition, the appetite, and the strength, while the bulk of the body was increased. He found, moreover, that they seemed to strengthen the vital resistance against the invasion of morbid influences, thus protecting the patient from many diseases. In reference to corrosive sublimate, Dr. Almès states that he has employed it as a tonic in many cases, and especially in some children of two to five years old, who could not be suspected of having syphilis. He has continued its use for half-years and whole years, and he has almost constantly observed in the patients an improvement in their general health, characterised by the return of appetite, increase in bulk and fat, the coloration of the complexion, the development of muscular vigour, and all the external signs of health. The dose of the corrosive sublimate given with this object is very small, being from one to two milligrammes a day (a milligramme is the 1-1000th of a gramme, about 15 grains). It is given dissolved in distilled water.

ART. 100.—*On the Results of the Subcutaneous Injection of Bichloride of Mercury.*

By Dr. J. ROSENBACH, of Gottingen.

(*Henle u. Pfeuffer's Zeitschrift für rationelle Medicin*, xxxiv., p. 36; and *Schmidt's Jahrb.* No. 7.)

The following investigations, which were made upon dogs, are of especial interest from their bearing on the novel practice of injecting solutions of bichloride of mercury for the treatment of syphilis. The injections, which in every instance consisted of a strong solution of corrosive sublimate, were injected along the side of the spine.

A medium-sized dog was injected with 0.04 grammes of bichloride of mercury. It was afterwards attacked with severe diarrhœa, and died on the evening of the following day, having been again injected with a similar dose at noon. The urine reduced a considerable quantity of solution of copper. On post-mortem examination, the subcutaneous connective tissue, about the seat of puncture, was found to be much reddened and infiltrated with serous fluid; the same appearances were presented in all the subsequent experiments. The mucous membrane of the stomach and small intestine was slightly congested; Peyer's patches were somewhat enlarged, the vessels were much distended, and here and there were erosions and effusions of blood. The spiral fold—a portion of mucous membrane several lines in breadth, which passes through the canine cæcum in the form of a spiral—was completely covered by hæmorrhagic patches. At its free border the mucous membrane was thickened, and covered by dark green masses. At the commencement of the large intestine, likewise, the mucous membrane

was much congested, and sprinkled over with isolated spots of extravasation. The spleen was normal; the liver and kidneys rich in blood, but not enlarged. The liver cells and the renal tubuli were normal. The mucous membrane of the bladder and the brain were also normal.

In his three next experiments Dr. Rosenbach injected only 0·01 gramme of corrosive sublimate. With one dog similar symptoms to those of the first came on, but were much less severe; the small quantity of urine contained albumen but no sugar. In another case where death occurred on the fourth day without any preceding diarrhœa, similar appearances were also presented by the tissues. The kidneys, however, contained but little blood, and showed the morbid changes which have been described by Saikowsky. On making a longitudinal section as far as the hilus, there was nothing special to observe; but on holding a thin slice against the light, there was noticed, parallel to the superficial surface of the kidney, an opaque streak along the limit between the medullary and cortical portions. This streak was scarcely 0·5 mmtr. in breadth, and was not homogeneous, as it could be separated into opaque and transparent portions. The opaque portions were evidently due to an infiltration of the straight urinary tubules with a strongly refracting material. It resisted the action of soda, but on the addition of acids disappeared with a development of gas; on the addition of sulphuric acid, gypsum crystals made their appearance.

Additional experiments were also made by Dr. Rosenbach. The results of these, though they agree in important particulars with those of Saikowsky, still present several differences. The creatures—probably on account of their small size—did not stand against the poisoning so well, and collapsed after the injection of 0·04 grammes in from twenty-four to thirty-six hours; and after the injection of 0·01 grammes within four days. The temperature was not elevated; purging always followed large doses, but after small doses occurred only in one instance.

Rosenbach observed, as Saikowsky did, hyperæmia of the gastric and intestinal mucous membrane, and also hæmorrhagic erosions, which—as mercury has been found in the saliva and the excrements of the dogs experimented upon—may with certainty be attributed to an irritation of the mucous membrane by preparations of the metal mixed with the contents of the intestines. Rosenbach never observed an increase in the quantity of urine, though in most cases there was a slight amount of diabetes.

Dr. Rosenbach, in conclusion, points out that those portions of the intestines were almost alone affected in which the intestinal contents generally stagnate and become inspissated by absorption of their fluid parts; and that hence there is a close analogy to the local affections of the canal occurring during typhus, &c. The supposition that the so-called infectious disorders are to be attributed to so-called dyscrasiæ, or rather to rapid changes in the mass of the blood, hence loses some of its support as soon as it is shown that poisonous substances, whether they be organic or chemical bodies, may, in spite of their incorporation with the general blood mass, produce quite limited and localized affections of the lower part of the intestinal canal, whilst the upper part remains as good as free from lesions. This really occurs after the subcutaneous injection of mercury.

ART. 101.—*The Prophylactic Action of Copper in Cholera Epidemics.*

(*The Lancet*, November 6.)

At a recent meeting of the Clinical Society, it was stated by Dr. Clapton that his investigations on the effects of copper upon the system had elicited the remarkable fact that men engaged at the various copper-works in London always escaped cholera and choleraic diarrhoea during great epidemics. That such an immunity is really afforded by the action of this metal seems now to be a well-attested fact, since Dr. Clapton's statements have lately been confirmed by some statistics communicated by M. Burq to the French Academy of Sciences. M. Burq states that during the epidemic of 1865-66 in France, only 1 out of every 1,270 workers in copper was attacked, the total number of individuals thus engaged being 37,000. With workers in iron and steel, on the other hand, 1 out of every 209 was attacked; and of those engaged on other metals than copper or iron, 1 out of 178.

ART. 102.—*On the Destruction of Tumours by Injections of Pepsine and other Substances which act in Digestion.*

By Dr. DE CASTRO.

(*Bulletin Général de Thérapeutique*, May 30; and *British and Foreign Medico-Chir. Review*, October.)

Dr. de Castro, a physician practising in Alexandria, has lately published some cases in which tumours have been diminished by injections of pepsine. One case was that of an Arabian woman, aged fifty, who had suffered for more than two years from a tumour of the right breast, which finally ulcerated and caused considerable emaciation. Dr. de Castro removed the breast in March, 1868; but in the following September two hard tumours appeared in the axilla, and in October they had attained a great size. Dr. de Castro proposed to inject pepsine, and he made use of the acid amylaceous pepsine, which he injected into the lower tumour by means of Pravaz's syringe, and repeated the proceeding forty days afterwards. Five days subsequently, the lower tumour had diminished by one-half. Twenty-three days afterwards Dr. de Castro made another injection, and another after that, and when he revisited the patient about three months after the first injection, the tumours had diminished very considerably in volume, the complexion was healthy and the muscular strength had returned. Dr. de Castro states that a case was still under his observation, where a goitre had been considerably reduced by the injection of pepsine. It appears that injections of the gastric juice were proposed by Senebier, of Geneva, in the last century, as he imagined that the solvent action of this fluid might be beneficially employed in the treatment of cancerous ulcers.

ART. 103.—*On the Detection of Fixed Oils in Plants.*

By THOMAS T. P. BRUCE WARREN, F.R.S.

(Pharmaceutical Journal, October.)

The process here recommended is admirably adapted for detecting, on a small scale, the existence of fixed oils in vegetable substances.

It consists in treating the recent emulsion obtained by expressing the juices from the plant, first with hydrochloric acid, which precipitates caoutchouc if present, and destroys the emulsive character of the juice. The caoutchouc collects as a white tenacious mass on the surface of the liquid, which is to be completely removed.

The residue is strongly agitated with bisulphuret of carbon, and, after digesting for some time, the supernatant part is decanted off.

The bisulphuret of carbon will be found to have dissolved the fatty matter contained in the juice, which may be recognised by adding a few drops of dichloride of sulphur. A granular precipitation immediately follows on the addition of the dichloride of sulphur, which is not redissolved either in ether, chloroform, or bisulphuret of carbon, even when assisted by heat.*

The hydrochloric acid should be added in tolerably large quantity, to insure the agglutination of the caoutchouc, since it does not interfere in the least with the subsequent part of the test.

In dealing with woody or hard fibrous substances, the same in coarse powder may be simply digested in bisulphuret of carbon, and afterwards in the manner above indicated.†

ART. 104.—*Fluid Extract of Pumpkin Seed.**(American Journal of the Medical Sciences, July.)*

Mr. Charles Hand having been requested by Dr. Cullen, of Camden, N. J., to prepare the above extract, adopted the following formula, which he publishes in the *Amer. Journ. of Pharmacy*, May, 1869, and found very satisfactory.

“Take of pumpkin seed sixteen troyounces; alcohol, sp. gr. .835, a sufficient quantity. Bruise the seed with an equal bulk of washed sand, until they are thoroughly comminuted; transfer to a conical percolator; pour upon it the menstruum until three pints have passed, reserving the first twelve fluidounces, and reduce the remainder to four fluidounces by distillation; mix this with the reserve tincture and filter.”

Mr. H. states that this extract “has proved, in the hands of the

* These precipitates may, in some instances, be regarded as presenting individual characteristics, and thus offer a means of detecting admixtures of oils.

† It will be better, in some cases, to treat such substances with highly rectified and washed ether, and to precipitate the caoutchouc by the addition of a small quantity of alcohol.

above physician, a valuable remedy for 'tænia solium,' and he regards it as an indispensable addition to the list of new remedial agents. Having given it in the dose of a tablespoonful three times a day for a short period, its action was such as to destroy nearly the whole of the worm, and by continued use it was completely eradicated."

ART. 105.—*Calabar Bean in Trismus Neonatorum.*

By Dr. ALOIS MONTI.

(*Jahrbücher für Kinderheilk.*; and *Medical Press and Circular*, August 25.)

Dr. Alois Monti, of the St. Ann's Child's Hospital, reports three cases out of five cured by this remedy. He prefers subcutaneous injections, as he thinks the internal use uncertain. He repeats these injections every ten or fifteen minutes until the spasms cease; then intermits them even for several hours until the cramps return. For new-born children he uses one-tenth grain of the extract per dose, and goes up to one-third, one-half, or a whole grain a day. Older children can commence with one-third grain per dose. For internal use, from one to four grains a day may be given.

ART. 106.—*On the Process for Preparing James's Powder.*

By MICHAEL DONOVAN, Honorary Member of the College of Pharmacy of Philadelphia, etc., etc.

(*Pharmaceutical Journal*, September.)

Mr. Donovan believes that James's powder may be prepared in the following manner:—

"Let any quantity, say eight ounces, of bone shavings, be heated in an earthenware dish or an iron ladle over a moderate fire, and frequently stirred or raked during its incineration. When burnt to a black powder, and ammoniacal fumes are no longer perceptible, let four ounces of levigated sulphuret of antimony be thrown in, and let stirring with an iron rod from the bottom and all parts be immediately commenced and rapidly continued, so that the sulphureous fumes shall have a *free* issue and be no longer discoverable. This is most important.

"During the desulphuration, the heat should be kept as low as may be sufficient to cause the discharge of the vapour. In the dark, the powder should show a thin, blue flame, as faint as possible; but as often as this flame disappears, the heat should be gently raised until it again appear. But neither the bottom of the ladle nor the powder should be allowed to become red-hot while vapours are discharged, or while there is blue flame from the burning sulphur. At length even a higher heat will not expel any more sulphur. During this roasting, innumerable bright spiculæ of metallic antimony will sparkle through the powder.

The ladle and its contents may be allowed to become red-hot for two or three minutes, the raking being continued. If the process has been rightly conducted, the powder, at this stage, will have assumed the colour of the dust of Bath brick.

“The contents of the ladle should now be powdered, sifted, transferred to a skittle-pot, its cover laid on, and the whole placed on a stand in the fire-grate, and lumps of coal are to be built round and above it in such a way as to permit a free current of air to pass through. The skittle-pot and its contents will thus be brought to a uniform bright red-heat, which may be maintained at that degree for about an hour, more or less, according to the quantity. The skittle-pot is then to be taken from the fire, and should the powder prove to be pure white, except, perhaps, a thin layer at the top, it only requires to be reduced to the finest powder in an earthen mortar, and sifted through a fine silk sieve. Should the powder not prove white, it may be returned to the skittle-pot, placed in the fire as before, and continued in a state of ignition for half an hour, according to the judgment of the operator.

In the first part of the process, the sulphuret of antimony is slowly decomposed; its sulphur burns, and exhales in a state of sulphurous acid. The antimony, now insulated, appears in small brilliant spiculæ, which as the heat increases, gradually disappear. In the second part of the process, when the roasted matter is heated in the skittle-pot, the antimony, while in the state of vapour, combines with oxygen, and is converted into protoxide, part of which crystallizes in the upper part of the skittle-pot, or escapes as a thick, white smoke. The heat increasing, the protoxide is converted into antimoniate of antimony, which remains mixed or combined with the phosphate of lime.

If the heat be raised much above that of a good coal fire in a common grate, the mass will slightly cohere, and in some parts will become yellowish and vitreous. If the heat be still higher, as that of an air-furnace, the powder will change to an olive-brown mass as hard as stone.

All the time the powder is in the skittle-pot, and very hot, protoxide of antimony is escaping or crystallizing on the cover, and hence the difference discoverable by analysis, and by the medical effects of different parcels of James's powder. It therefore becomes an important and difficult question—What is the criterion by which the completion of the process is to be judged? I know of no other than this—that when the powder is white it is fit for use: any greater or longer-continued heat I believe to be injurious. It may not always happen that the whole charge will prove white; when it does not, the whitest parts are to be separated, and, if worth the trouble, the remainder may be slightly calcined again. But should the first charge, after being duly heated, prove dark-coloured throughout, it cannot be improved, and may be rejected.”

The following facts relative to James's powder were communicated to Mr. Donovan a great many years ago by a very old gentleman who had been an apothecary in Dublin, Mr. William Speer, the clever inventor of a well-known hydrometer for ascertaining the strength of excisable spirituous liquors. It was as follows:—

"In 1758, Dr. Anthony Relhan, a Fellow of King and Queen's College of Physicians in Ireland, practised in Dublin, and was one of the physicians of Mercer's Hospital. The Fellows refused to meet him on account of his employing James's powder in his practice, although the decree against antimonials by the French College of Physicians had been long before repealed. In consequence, he wrote to Dr. James, who advised him to go to London to practise, which he did. Becoming intimate with Dr. James, the latter, during several interviews, communicated the process practically to him, his patent-right having expired. In 1760 Relhan returned to Dublin, and being acquainted with Mr. Ducros, an eminent apothecary, then residing in William-street, he communicated the process to him confidentially. Ducros prepared the powder, in presence of Relhan, and it was repeatedly administered in Mercer's Hospital and other places, with exactly the effects of James's powder. Mr. Speer was apprentice to Mr. Ducros, and on his death, in 1768, succeeded to his business: the widow gave up to Mr. Speer a MS. book containing the account of the *Pulvis Jacobi*, which he retained ever after. The following is the process:—"Take one pound of hartshorn shavings; boil them in a large quantity of water, and dry them by a slow fire. Rub them to a fine powder. Then put an equal weight of the hartshorn and powdered crude antimony into a crucible, and set it on a moderate fire, stirring it with a long rod of iron for six hours, or as long as it smokes."

Mr. Donovan has repeated the above process several times, but never could produce the snow-white powder with which we are familiar; the resulting colour being generally that of Bath brickdust, and on a few occasions paler. Yet the statement of Mr. Speer is, Mr. Donovan thinks, supported by facts. Dr. Pearson says, "It is probable that this powder was made for several years with merely the heat necessary to carry off the sulphur and calcine the bone, in an open vessel, and consequently it was of a light clay or ash colour. Its property of turning white in a greater degree of fire appears to have been a subsequent discovery."

ART. 107.—*Carbolic Acid and Human Parasites.*

By T. A. READWIN, F.G.S., etc.

(*Pharmaceutical Journal*, October.)

Parasites having been found on and in most parts of the body, both of the healthy and the diseased, it becomes an inquiry of the highest importance, whether an efficient antidote to these ills which human flesh is said incorrectly, Mr. Readwin thinks, to be *heir to*, can be found.

That antidote, he believes, has been found in carbolic acid; this extraordinary tar product, in a dilute form, is known now to destroy all the low forms of life, whether animal or vegetal.

It has long been held that the air we breathe for life, contains also extremely active powers of destruction, and that filth and offensive odours are detrimental to health; but, only, comparatively recently, however, has it been discovered that the air holds, *also*, floating in it,

myriads of the minutest *germs* of plants and animals, and that these mysterious atoms alight sometimes upon the bodies of living beings, enter their lungs, their blood, their tissues, and there develop and multiply exceedingly, and become the *sources* of *disease*, infection, and death.

It is now certain that these putrefying (septic) germs are great causes of putrefactive *fermentation*; that fermentation is intimately connected with *inflammation*; that most *diseases* result from inflammation; that carbolic acid (antiseptic) will kill all septic germs, and thus remove many *causes* of disease; that glycerine is a very powerful healing-agent; that carbolic acid is freely *soluble* in glycerine; and that their *united* application has resulted in the speedy cure of some of the most dangerous diseases. It follows, therefore, that these new therapeutic agents demand very special attention.

As a rule, it is better to dissolve the crystallized carbolic acid (Calvert's) in the proportions of one part by weight of the acid to six of glycerine (*carbolate of glycerine*). In this state it can be equally diluted to any degree of strength.

In general, a *dose* of carbolic acid is 1 grain in an ounce of water.

As a *gargle*, 1 or two grains to an ounce of water.

As an *injection*, 1 grain to 4 ounces of water.

As a *lotion*, 15 grains to an ounce of water.

As an *ointment*, 16 grains to an ounce of benzoated lard.

As a *liniment*, 1 part to 20 of olive oil.

As a *plaster*, 1 part of carbolic acid to 3 parts of shellac.

The crystallized carbolic acid to be used as a caustic.

The carbolate of glycerine, as above, use in 1 or 2 drop doses, *internally*.

Antiseptic oil for abscesses, 1 part of acid to 4 of boiled linseed oil.

Antiseptic putty, 6 spoonfuls of the antiseptic oil mixed with whiting.

Aqueous solution of carbolic acid is 1 part of acid to 40 of water (1 ounce of acid to a quart of hot water well agitated and filtered).

Sick-rooms, to disinfect: place a portion of the dissolved crystals in a porcelain dish, and float it in a larger vessel of hot water.

Disinfecting purposes generally: 1 pound of *crystals* to 6 gallons of water. *Fluid*, 1 part to 80 of water. *Powder*, 1 ounce of crystals with 4 pounds of slaked lime.

For drains: 1 pound of the fluid carbolic acid to 4 gallons of warm water.

Tooth-ache is often cured with 1 drop of carbolate of glycerine; and diarrhœa arrested in half an hour with 2 drops in a wineglass of water.

In all cases of parasitic life it is advisable to commence with very dilute carbolate of glycerine.

Inasmuch as carbolic acid will destroy the power of *vaccine virus*, it becomes an interesting inquiry as to the possibility of using carbolic acid internally as a preventive, so as to fortify the human system against the incoming of zymotic diseases.

ART. 108.—*Danger of Giving Strong Doses of Camphor.*

(Medical Press and Circular, September 22.)

A case illustrating the above has recently been brought under the notice of the Société de Médecine et de Pharmacie de Grenoble. An enema consisting of five grammes of camphor dissolved in the yolk of an egg, was given to a child three years of age, suffering from typhoid fever. Symptoms of poisoning at once manifested themselves; convulsions, lividity of the countenance, stupor, arrest of the urinary secretion, &c. The employment of coffee sufficed to restore the child.

ART. 109.—*Actual Experience in Hospital Practice of Recently Vaunted Remedies.*

By D. M'GREGOR, L.R.C.P. and S. Ed.; late Medical Superintendent, Barnhill Hospital and Asylum, Glasgow, now of Penrith.

(Edinburgh Medical Journal, October.)

The institution with which the author has been connected for the last three years and a half consists of the workhouse, hospital, and asylum of a parish (Barony), the population of which is 180,000. The average daily number in the house for several years past is upwards of 1000; while in the winter six months of each year the numbers were 1200, and sometimes even 1300. Of the entire number in the house there were nearly always an average of 350, male and female, of whom 150 were insane, under constant medical treatment. All forms of disease, mental and physical, usually met with amongst the poor of this country were from time to time dealt with, so that a very considerable field was open for the putting to a practical test the various means of relief or cure of disease ever and anon suggested by members of the profession. Of this opportunity Dr. M'Gregor always availed himself, by testing every remedy recommended either by the eminence of its advocate, or by the strong array of evidence in its favour.

The remedies he has selected for comment are the following:—

Acupressure.
Acetic acid injections in cancer.
Bromide of potassium in epilepsy.
Blistering in acute rheumatism.
Carbolic acid.
Ether spray for local anæsthesia.
Holt's "Dilator" for stricture.
Iodide of potassium in syphilis.
The "sulphur cure."

Though Dr. M'Gregor's practice in acupressure has been but very limited, it has been enough to convince him of its great advantages over the ligature, in most cases at least.

The author's experience of acetic acid in cancer extends to one case only—a case of scirrhus of the breast of a female. After giving it every

chance and using every precaution in its favour, in what the author considered a favourable case for it, the result was a signal failure,—worse than failure, for he is sure it did harm by hastening the fatal issue. Though several other cases of cancerous disease came under Dr. M'Gregor's care since, there were none of them in which he could feel justified in interfering by acetic acid injections; but the acid in a diluted form was applied to the broken surfaces with the advantage of lessening pain and giving considerable relief. This, he found, however, could be done by several other agents as well as by acetic acid.

With respect to the bromide of potassium in epilepsy, Dr. M'Gregor says he has never yet been able to *cure* a single case of epilepsy by this drug; yet he has found it a most valuable agent in its mitigation and relief. Nay, he has in several instances kept the disease quite under control while its administration was continued. But however long this might have been done, on its withdrawal, or soon after, the disease reappeared, not with such violence at first, but increasing in severity as the time from the discontinuance of the bromide increased. The dose in which he usually prescribes it is a scruple three times a day to begin with. This he increases, if need be, by increasing the number of times a day in which it is given, till, in some very bad cases, a scruple is administered every two hours. Except in two cases he does not remember having seen bad effects from it. In these a papular rash appeared on the face, with heat and itchiness, more particularly on the nose; and in one case diarrhœa was caused by it.

Dr. M'Gregor has given the preparations of silver and zinc a fair trial in epilepsy, but never found the slightest benefit from them.

Blistering in acute rheumatism.—No remedy the author has yet seen used produces so speedy and effectual a relief, nor is followed by less annoyance, than this mode of treatment. Among the class of patients he has had to deal with, articular rheumatism is very common, and whether accompanied by fever or not, and however swollen or painful the joints, his regular practice is to apply at once a blister to every one of the joints seriously affected. Within twenty-four hours the relief is complete. On the removal of the blisters, linseed-meal poultices are applied over the situation so treated, for a few days, as the case may be, after which nothing more is necessary, the patient is well, so far as rheumatism is concerned; but Dr. M'Gregor has noticed a greater tendency than usual to catching fresh colds after this treatment, and he therefore keeps the patient longer in bed than is necessary on any other ground, to avoid this risk. Generally a few days suffice for this, depending on the state of the weather. He has had no difficulty with the urine after blistering, and he is almost certain there is less risk of the heart becoming affected by this treatment than by any other he is aware of.

Carbolic acid.—Dr. M'Gregor relates several cases to prove the good effects of this remedy.

Ether spray as a local anæsthetic.—The author's experience of this means of promoting painless operations has been of a very unsatisfactory and negative character. He particularly hoped that he would find it a great boon in the extraction of teeth, and thus do away with the necessity of giving chloroform, in many cases at least. But he was disappointed. He made several useless attempts at freezing the gum, both

by the single and double spray points, acting on one or both sides of the gum at the same time. No sooner was the gum paralysed and ready for the application of the forceps than the mouth was filled with a mixture of ether, and the saliva, which its application produced in an increased quantity, requiring the patient to spit out—a loss of time which, with that required to fix the forceps, is more than sufficient in a situation like the mouth to revive sensibility, and defeat the object in view. This Dr. M'Gregor found to be the case even in the front of the mouth, where its application is comparatively easy, and much more so when the tooth to be extracted happened to be well back in the cheek. He has found it sometimes relieving toothache when applied directly to the gum, or, as in some instances, to the cheek. He has applied it to abscesses, acute and chronic, whitlows, &c., with the hope of being able to open them without pain, but always failed. There was no difficulty in freezing the skin—an operation which in itself is as painful in the author's opinion as opening many an abscess; but this effectually done, the skin is rendered so tough and hard, that however sharp the knife, it requires such an effort to get through as, in acute abscesses at least, to make the operation more difficult and painful than without it. In a large acute abscess where the heat of surface is very great, it is difficult at the best to keep up such a degree of local anæsthesia as to admit of a painless operation, more especially if one is without an assistant who continues the spray while the operator is applying the knife.

Holt's dilator for stricture.—Only in four cases has Dr. M'Gregor had occasion to use it, and in all the four with the most perfect success. Indeed the cure was so remarkable that he thinks (if he may be allowed to judge from so limited a number) in all suitable cases for this instrument it is needless loss of time, in hospital practice at least, to spend weeks upon the gradual dilatation of stricture when it can be safely done in most cases in fewer days.

Iodide of potassium in syphilis.—Iodide of potassium has always been a favourite remedy with the author in cases of syphilis, and he thinks he has often seen much good resulting from its use. But he had never used it in higher doses than 10 grains, till he noticed recently several correspondents of the *Lancet* agreeing in recommending doses of from a scruple to 30 grains three times a day in tertiary and late secondary affections. Since then he has tried it in four selected cases with very encouraging results.

The "Sulphur Cure."—The pamphlets published by Drs. Dewar and Pairman, and a discussion in a portion of the public press on this subject, led many medical men, particularly hospital surgeons, to give it a trial in the various affections it was strongly recommended in. Dr. M'Gregor got one of the instruments recommended by Dr. Dewar, and a quantity of the sulphurous acid, with the intention of trying it in the form of spray as well as by fumigation. Just at this time he was seized himself with a severe cold, which settled down on the respiratory tract from the nostrils to the larger bronchi, causing a heavy cough, with a profuse muco-purulent discharge, with much languor, and loss of appetite. In short he had a bad attack of catarrh. Although Dr. M'Gregor had the spray in his possession, he decided on giving a first trial to fumigation. For twenty days he shut himself up in a room four times a day,

twenty minutes at a time, breathing air as strongly charged with sulphur fumes as he could comfortably manage. He adopted the homely method, suggested by Dr. Dewar, of sprinkling on a shovel of live coals flour of sulphur to the proper degree. He carried out this practice very regularly; his cold being such as to keep him at least about the house, if not confined to it. Although he might have easily cured this cold, he supposed, in some ordinary way, he was so anxious to give sufficient time and opportunity to the fumigation that he took nothing else for it. At the end of three weeks, finding that his cough was really getting worse instead of better, and no improvement otherwise noticeable, he stopped the fumigation, and began to inhale the sulphurous acid spray. This he continued five or six times a day, taking about a dozen inhalations at a time with much perseverance for ten days. All this time he was taking great care of himself, avoiding exposure, and paying attention to clothing and diet. The only good Dr. M'Gregor noticed resulting from the use of the spray was, that the cough was somewhat softened, and the expectoration made easier. This was really the case, as he has noticed in several other instances since, but in other respects he cannot say that he experienced any benefit from it. He gave up the sulphur cure, and went off to the country for a change, which in ten days effected a thorough cure. In the hospital, not having a suitable room in which to isolate patients, Dr. M'Gregor was unable again to try fumigation, but the spray he has frequently tried with the following general results: In cases of chronic bronchitis, when other expectorants failed to loosen the sputum, he finds a few inhalations of the sulphurous spray doing so in a very successful manner; and where great dyspnoea exists on account of the stuffed-up bronchi, much relief often follows on its use. In cases of advanced phthisis, when the throat becomes parched and dry, with much thirst, which in many instances is not relieved by any amount of drink the stomach is capable of retaining, a few inhalations occasionally given afforded great relief and comfort to the patients. It seems to moisten and relax the fauces and throat as no amount of drink will do, and this without the bad effects of much drinking in these cases. It also loosens the spit in cases of phthisis, and obviates the necessity of administering expectorants, which too often derange the stomach and bowels, doing more harm than good. When the shortness of breath is very extreme, perhaps on account of the extensive destruction of the lungs, the patient cannot inhale the spray, as it interferes too much with the respiration, already laboured and difficult. In these cases it should not be given; but when the dyspnoea is due not so much to this cause as to an accumulation of phlegm in the air-passages, it may be given with advantage; for generally speaking, such patients are more able to bear the exertion consequent on its inhalation at first, after which relief is speedily obtained. In sore throats, syphilitic and other, it relieves pain, and Dr. M'Gregor believes does some good as a disinfectant, but he has not yet seen any of the rapid and perfect cures so often attributed to it. Dr. M'Gregor uses a lotion of sulphurous acid in cases of chronic eczema and other skin affections with benefit, also in sloughing gangrenous ulcers, with the advantage of not only destroying smell, but of limiting the ravages frequently occasioned by gangrene.

ART. 110.—*On the Effects of the Inoculation and Ingestion of various Organic Substances, and principally of Tuberculous Products.**

By Dr. DUBUISSON.

(*Gazette Hebdomadaire*, No. 33.)

The experiments were made at Clamart. M. Villemin demonstrated to us his mode of operation, and himself inoculated some of our subjects.

Two series of experiments were made: in one we introduced under the skin various organic substances; in the other we allowed tuberculous substances to penetrate into the digestive passages.

When cadaveric matter is inserted under the skin symptoms may be produced which differ according to the period at which they are presented and according to their intimate nature.

1. In a certain number of cases, animals die rapidly and without presenting at the autopsy sufficient lesions for the explanation of death. A rabbit, after an injection in the groin of five drops of cancered pus diluted with water, died on the following day. A rabbit, after the insertion into the right groin of six centimetres of thread dipped in cancerous juice, died on the sixth day. Two rabbits died on the day following the introduction, under the skin of the shoulder, of one gramme of tuberculous lung. A rabbit died on the sixth day after the introduction under the skin of the shoulder, of thread dipped in tuberculous expectoration. A rabbit, in which had been inserted under the skin of the shoulder $1\frac{1}{2}$ centimetre of thread dipped in tuberculous expectoration, died on the sixth day. Finally, a dog died on the fifth day after the introduction of 50 centigrammes of cadaveric muscle under the skin of the right groin.

2. Sometimes the symptoms are produced less rapidly, but these, however, seem to depend upon the operation undergone by the animal. We possess but a single case of this kind; it is that of a guinea-pig on which M. Villemin had injected under the skin of the thorax some fragments of tuberculous lung from a rabbit, and which, when killed two months later, presented at the autopsy grey granulations in the lungs. These small masses are more voluminous, less hard, and more irregular in size than the tubercular granulations; they are, moreover, regularly scattered over the whole of the lung, and are found as much at the base as at the summit. The microscopic examination, made with much care by M. Grancher, chief of the laboratory at Clamart, in comparison with granulations from the infant's chest, showed that they were not composed of tubercle. M. Grancher, relying upon their histological characters, saw in them small deposits of catarrhal pneumonia.

3. Finally, in all the remaining cases, nothing was observed, and the nature of the products employed had in no way modified the results of the operation. In the first place we injected fluid taken from the peritoneum of a man who had been dead for thirty hours. A rabbit

* Read before the Académie de Médecine, August 10, 1869.

died from marasmus one month after the injection into the groin of 12 drops of this liquid; an enormous abscess was produced, but there was no tubercle.

Another rabbit underwent in the first instance an injection into the groin of 12 drops of the same fluid; the animal lost a part of the scrotum from sphacelus; two months later a small portion of lung dipped in the pus of a metastatic abscess, was introduced at the base of each ear; the animal, when killed at the end of about nine weeks, more than four months after the first operation, presented no lesion.

A dog, weighing 20 kilogrammes, received in the groin 20 drops of peritoneal fluid; an abscess formed, but the animal recovered. One month later, one gramme of tuberculous lung from a man was injected under the skin of the shoulder; a vast abscess resulted. When killed about two months later the animal presented no lesion at the autopsy.

A guinea-pig killed five weeks after the introduction of tuberculous granulations under the skin of the groin, presented nothing abnormal at the autopsy. A rabbit sacrificed two months after some tubercular granulations had been introduced under the skin of the groin, presented at the autopsy but a small nodule of lobular pneumonia. A dog, inoculated in both groins by M. Villemin with tubercle from a rabbit, presented nothing at the autopsy two months afterwards. The same occurred with a rabbit inoculated at the base of the ears by M. Villemin, and sacrificed two months afterwards. Finally, another rabbit, which had undergone a similar operation, presented at the end of two months but two small masses of lobular pneumonia.

Two guinea-pigs which we had forced to swallow tubercular expectoration, presented nothing abnormal at the autopsy; one, which had taken in 9 grammes of expectorated matter, succumbed on the twentieth day; the other, which had taken in 50 grammes, did not live beyond the eighth day.

In other experiments we have forced dogs, rabbits, and during two or three months, to swallow variable quantities (from 300 up to 633 grammes) of fragments of tuberculous lungs at all periods of their evolution; these animals were afterwards sacrificed, and all their organs were found in a healthy condition.

The following conclusions have been drawn from these experiments:—

“1. Inoculated substances are most frequently inoffensive, the nature of the products employed having no influence upon the result.

2. They sometimes produce rapid accidents, and occasion death by a kind of poisoning.

3. They produce in certain cases lobular pneumonia, which is probably consecutive to the inoculations, and which may be confounded with tubercular deposit.

4. Tuberculous matter, when given by the stomach, sometimes occasions the death of the animal, which is poisoned as if by septic products.

5. Most frequently animals that eat tuberculous lung suffer from a malaise, the result of this bad alimentation, but they do not become tuberculous. Our experiments demonstrate then that tuberculosis is, in its essence, neither virulent nor contagious with the animals upon which we operated.”

ART. 111.—*A Visit to some of the German Spas.—Carlsbad.*

By M'CALL ANDERSON, M.D., Professor of Practice of Medicine
in Anderson's University.

(*Glasgow Medical Journal*, August.)

Carlsbad, the King of German Spas, is a three days' journey from London, the shortest route from England being by Frankfort, Hof, and Eger. From Eger it is reached by coach in about six hours.

There is an iron spring, writes Dr. Anderson, and one which contains only carbonic acid, in the vicinity of Carlsbad; but the first is difficult of digestion and practically useless, while the last is exhilarating, and is, therefore, given to weakly people, although it is not much to be relied upon. The effects of these two springs prove, in the estimation of Dr. Seegen, one of the leading physicians of the place, that the benefit of most iron baths is due, not to the iron which (except in the case of the Franzensbad mud baths) he does not believe is absorbed by the skin, but to the carbonic acid which most of the waters contain, and which is exhilarating.

The celebrated springs (for the above are of little moment) are situated in the valley in the centre of the town, and extend over an area of about a quarter of a mile.

The waters are alkali-saline. Their temperature ranges from 116° to 165° Fahrenheit, which depends upon their deeper or more elevated issues. The temperature of the Sprudel is the highest.

The waters are colourless, and have a taste very like that of chicken broth. The analysis of the Sprudel yields the following results:—

Sulphate of soda . . .	19.86 grains.
Carbonate of soda . . .	9.69 „
Chloride of sodium . . .	7.97 „
Carbonate of lime . . .	2.37 „
„ magnesia . . .	1.36 „
„ iron . . .	0.02 „
Silex . . .	0.57 „
Carbonate of strontia . . .	} traces.
„ manganese . . .	
Phosphate of lime . . .	
Basic phosphate of alumina . . .	
Fluoride of calcium . . .	
<hr/>	
Carbonic acid . . .	41.92 grains in 16 oz.
	11 cubic inches.*

The waters are indicated in almost all cases of *abdominal plethora*. They are not purgative, nor even aperient in the case of many; but it is a curious circumstance, seeing that its chemical composition is the same as that of the other springs, that the water derived from the "Rocquelle" is most likely to open the bowels. In cases of constipation, such as occurs in persons of sedentary habits and who live generously, the treatment requires to be continued for some time, but

* Sutro.

the relief is all the more likely to be lasting. In *stomach affections*, and especially in *chronic catarrh*, associated with slight tenderness upon pressure, the waters are peculiarly efficacious. They are also useful in cases of *ulceration*, even when hæmatemesis is one of the symptoms, but then they must be given with great caution. In *chronic catarrh of the intestines*, with looseness of the bowels, or in cases in which diarrhoea is produced from the slightest causes, they are of great value.

But it is in *chronic affections of the liver* that the value of this Spa is most appreciated, although, of course, serious organic diseases cannot be expected to be even ameliorated; nay, they are often aggravated by perseverance in the use of the waters. In *hyperæmia, catarrh of the bile ducts*, and above all, in cases of *gallstones*, relief may be said to be certain. And their value in the last-mentioned complaint is enhanced by the fact that they not only favour the expulsion of existing, but also prevent the formation of fresh, calculi. They are likewise of service in the *early stage of cirrhosis*, and in *fatty and amyloid degeneration of the liver*. Most cases of *jaundice* due to removable causes are readily cured.

Dr. Seegen finds that patients labouring under *diabetes mellitus* are often greatly benefited. The general symptoms diminish in intensity, and the patients gain flesh, while there is a very great reduction in the amount of sugar excreted, even in severe cases, within a very few weeks. It is right to mention that some time after the treatment is stopped, there is a gradual increase in the quantity of sugar eliminated, but it does not regain its previous amount; so that while the waters are not curative, they frequently have a permanently good effect.

The waters are also very serviceable in cases of *gravel*, and in *gouty subjects*; and Dr. Seegen states that the albuminuria which is sometimes detected in English, but which he has never met with in German, patients, is greatly diminished, or even disappears altogether. On the other hand, they are injurious in cases of Bright's disease.

The Carlsbad waters keep well, and are to be had at Wm. Best & Sons, 22 Henrietta Street, Cavendish Square, London.

Carlsbad lozenges are almost exclusively composed of carbonate of soda, and are, therefore, of little use, except for heartburn; while Vichy lozenges are superior to them in this respect. Carlsbad salt is made by evaporating the waters to a certain extent, when the sulphate of soda is deposited on the sides of the wooden tubs in which the evaporation is conducted. With the exception of Glauber's salts, they contain very little of the other ingredients of the waters, and are very little better than them.

The baths are of three kinds—plain mineral water, douche, and mud baths. The first are most used, and generally along with the internal administration of the water; while the last are only of service in so far as they act the part of large cataplasms in painful affections. The baths are clean, but small, and lined with zinc; very different, therefore, from those of Aix-la-Chapelle. A new bath-house has just been completed, which is very handsome, and which contains a ball-room, restaurant, and reading-room.

The climate is temperate, and the season extends from the 22nd of

April till the 22nd of September, during which a band plays at the Sprudel every morning from six to eight a.m., when, for the most part, the water is taken.

It is well that it should be known that there is a law compelling visitors who engage private apartments to pay for 14, even if they should only remain a few days. A compulsory tax of five or six florins, or more, is levied upon those who remain at Carlsbad longer than eight days.

ART. 112.—*On the Employment of the Sulphites in cases of Purulent Infection.*

By Dr. GIOVANNI FERRINI.

(*Annali Universali di Medicina.*)

Dr. Ferrini relates two cases of purulent infection in which the use of the sulphites appears to have produced very beneficial effects. The sulphites employed were those of magnesia and soda, the former being used internally and the latter externally. Dr. Ferrini considers that the sulphites, in such cases as those which he records, not only strengthen the system and protect it from decomposition, but that they also act as preventives against purulent infection. He insists upon the necessity of giving the salts at the beginning of the disease, as they are then most efficacious. He observes that they are diuretic, and not cathartic, and that all their therapeutical action depends on their *antifermentive* properties. But the sulphites must be given with due care, and should not be administered in insignificant doses, or in combination with other remedies which act in a different or contrary manner. They should also be given with a sufficient quantity of water for their solution: the sulphite of soda is soluble in four parts of water, but the sulphite of magnesia requires at least twenty times its weight of water in order to be absorbed. Another indication is not to give the sulphites with acid drinks, for the acids absorb the base of the salts, and set at liberty sulphuric acid. Lastly, the sulphites should be given in sufficient quantity, and even an ounce a day may be necessary in certain cases.

ART. 113.—*On the Action of Chloral upon the Economy.*

By Dr. LIEBRUCH.

The following is the substance of a report communicated to the Academy of Sciences of Paris through M. Wurtz:—

Chloral is to be considered as trichloruretted aldehyde. Like trichloroacetic acid, this body when dissolved in an alkaline solution, is decomposed to form chloroform.

It is known that, in the organism, alcohol, aldehyde, and acetic acid are subjected to complete oxidation, the ultimate products of which are carbonic acid and water. One may anticipate, therefore, that with chloral also there will be a decomposition in its latter products of oxi-

dition; and should inquire whether chloroform, an intermediate product of this series, exerts its action in the organism.

The author has undertaken experiments upon animals with the hydrate of chloral. Frogs entered first into a period of sleep, then followed the period of anæsthesia; fatal doses produced paralysis of the heart. Here then we have effects completely analogous to those of chloroform. With rabbits the experiments had similar results.

Encouraged by this success, the author was led to experiment upon man. A lunatic, subject to epilepsy, and tormented by insomnia and delirium, received by injection 157 centigrammes of an aqueous solution of chloral. Five minutes afterwards he fell into a profound sleep, which persisted for four and a half hours. After awaking, the patient took his meal as usual.

The author cites two other cases in which chloral was introduced by the digestive passages in single doses of two grammes. It follows from these experiments that the effect of this agent takes place with great precision, and is unaccompanied by any unfavourable symptom, like the effect of morphia, for example.

ART. 114.—*On the Physiological Action of Chloral.**

By M. DEMARQUAY.

(*Gazette Hebdomadaire*, No. 38.)

“I have experimented on a great number of rabbits, and have injected into the cellular tissues of these animals from 20 centigrammes up to 1·20 gramme, without having caused death in any one of them; all in from fifteen to twenty minutes fell into a state of complete resolution, as if they had been put in a deep sleep. The duration of this sleep was between two and three hours, and however great had been the muscular resolution and the depression of these animals, they all recovered, and on the following day were in a marvellously good condition; I have been able to make use of the same rabbits in a series of experiments. The following appearances may be made out by attentively watching animals that have been narcotised by chloral:—

“The ocular and palpebral mucous membranes are injected. The ears are vascularised in a manner quite remarkable: one would think that these animals had undergone section of the great sympathetic, according to the fine experiment of M. Claude Bernard; this great vascularisation, however, is not associated with an elevation of temperature. If one examines into the state of sensibility of the animals during the whole period of the experiment, an *exaltation* of their faculties may be made out; the slightest pinch of the tail, the ear, or the lips, excites unruly movements, and whining cries, such as are not heard when a healthy animal is irritated in the same manner. The pulse, under the influence of chloral, becomes extremely frequent, and finally cannot be counted. The animal temperature under the influence of this agent, taken in a large dose, is lowered by one-half, or even by one degree. Most frequently rabbits narcotised by chloral exhale by their nostrils the

* Communicated to the Académie des Sciences.

odour of this substance, which would lead one to suppose that it is not decomposed completely, if, indeed, it be decomposed in the blood. If one opens during life the bodies of the animals experimented on, congestion of the abdominal viscera will be made out. The vessels of the mesentery are turgescient, the mucous membranes are irritated, particularly that of the trachea. A good idea of this extreme vascularisation will be obtained by sacrificing an animal which has not undergone injection. The central nervous system, the brain, the cerebellum, and the membranes are strongly injected; the same takes place with the cord and its membranes. I have never been able to notice any difference in the coloration of the great sympathetic, on account of its small size in rabbits; the microscope will not fail to show us the modifications which the nerve cells undergo. The muscles are very vascular; it seems to me that the arterial blood acquires a slight violet tint.

“What becomes of the chloral? For myself, I think that it is eliminated by the respiratory passages. M. Liebrech thinks that the agent which we study, possessing the property of becoming decomposed at its contact with a free alkali, must become decomposed in the blood, and that the chloroform resulting from this decomposition produces the observed phenomena. I cannot admit this view, because chloroform is an anæsthetic, whilst chloral has a very marked hyperæsthetic action. Many physiological questions remain to be resolved, and it will be necessary also to decide on the applications which can be ultimately made of this substance in the healing art. I have thought it my duty to publish these researches, as they differ so much in their results from those of M. Liebrech; still, we may add in conclusion that chloral is—firstly, a very powerful agent for producing muscular resolution, and, secondly, the most rapid of all hypnotics.”

ART. 115.—*Second Report on Chloral.*

By M. DEMARQUAY.

(*Gazette Hebdomadaire*, No. 40.)

The following report concerning experiments made on man with chloral was also presented to the Academy of Sciences.

“I administered on twenty occasions chloral combined with syrup of Tolu. The solution was such that one teaspoonful of syrup contained 1 gramme of chloral. The patient took this preparation readily enough; it was not disagreeable to the taste, but left nevertheless a sensation of tartness felt particularly at the base of the throat. The medicinal agent was well supported, and, moreover, caused no bad symptoms. The dose varied from 1 to 5 grammes.

Of my twenty experiments, six were negative with regard to sleep. The rebellious subjects were all men. The patient who took 5 grammes of chloral was a man thirty-five years of age, whose throat I was about to cauterize; I was enabled to obtain but a slight slumber lasting for three-quarters of an hour. On the other hand, a woman enfeebled by

an organic disease of the womb, after taking a single gramme of chloral slept quietly with two distinct renewals during the whole of the afternoon.

One may say, speaking generally, that weak and debilitated patients are much more sensitive to the action of chloral; and that the duration of its action or the length of the sleep is equally in proportion to this low condition.

In the fourteen cases in which sleep was complete (twelve women and two men) it generally came on in from fifteen to thirteen minutes after the administration of the agent. The sleep is light and in no way resembles that caused by chloroform. The smallest noise wakes the patients, but they instantly fall to sleep again. The slightest pain or a simple pressure gives rise to complaint; and the part of the body touched or pinched is immediately moved.

I would not undertake to assert that there is, in these cases, hyperæsthesia of the skin, but I can certify that the cutaneous sensibility is preserved, whatever may be the intensity of the sleep. It is consequently impossible to utilize this slumber in the practice of surgery. I derived, however, great advantage from the syrup of chloral in administering it to a lady upon whom I had performed a serious operation; immediately after the dressing, the patient took four grammes of chloral and at once fell into a slumber which lasted for the whole afternoon.

But though the slumber was calm and tranquil in many of my patients, it was to others agitated and disturbed by dreams and hallucinations; this condition was particularly manifested in women attacked with serious and painful organic diseases of the womb, and accustomed to take large doses of opium. In these cases the sleep was sometimes long, but agitated and mingled with moans; on waking, the poor patient earnestly demanded the habitual injection of morphia. This circumstance affords another proof that though chloral is hypnotic, it is in no way anæsthetic.

It should be mentioned, however, that the patient appeared on the following day to be unconscious of the evening's agitation.

When two or three grammes of chloral are given to an enfeebled patient, it is important, as sleep may be prolonged for some hours, to make him take beforehand some nourishment.

In my six negative cases, with regard to somnolence, there was one which particularly struck me: the patient was a young woman twenty-three years of age, who had been weakened by uterine discharges. She took two grammes of chloral in order to remove an intense cephalalgia; but the agent, instead of producing sleep, determined very active excitement. The woman was in a state of ebriety during the whole day; she was extremely sensitive and had a sharp appetite; insomnia lasted until the following day, when it gave way to great fatigue.

As the chloral was given in relatively feeble doses I had no occasion for making out any serious disturbance in the performance of the functions; the pulse varied only by a few beats, and with the respiration it was the same. As to the animal temperature, this was lowest for some few tenths of a degree below the usual point, to return again to the same height. In many cases the urinary secretion seemed to be incessant in amount, some patients passed their urine involuntarily in bed.

The following is what can at present be stated concerning the action of chloral :—

1. It has a well-marked hypnotic action, particularly on feeble and debilitated individuals.

2. The duration of its action is in direct proportion to this feebleness.

3. The slumber which it produces is generally calm and free from agitation, except in those patients who are the victims of acute suffering : this fact induces me to recommend chloral in diseases in which one desires particularly to bring about sleep and muscular resolution.

4. Finally, this agent may be given in a sufficiently elevated dose, and no bad symptom is produced after the administration of from 1 to 5 grammes.

ART. 116.—*On Chloral.*

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(*British Medical Journal*, October 9.)

The following is a summary of Dr. Richardson's views :—1. Deep and prolonged narcotism can be safely produced by the hydrate of chloral. 2. During a portion of the period of narcotism, there may be complete anæsthesia with absence of reflex actions ; a condition, in short, in which every kind of operation fails to call forth consciousness. 3. During the narcotism, there are intervals of apparent exalted sensibility. 4. In the transition from drowsiness to stupor, there is no stage of muscular excitement ; but in birds there is vomiting, as is common in the same animal in the second stage of narcotism from chloroform. 5. During the narcotism produced by the substance, there is invariably reduction of temperature. 6. The hydrate produces muscular relaxation ; which relaxation extends to the muscles of volition, and also to the iris and muscular arterial system. From the condition of the muscles after death it may be inferred that this paralysis is in part due to change within the muscular structure itself. 7. The action of the substance on the nervous system is primarily on the sympathetic ganglia, afterwards on the cerebrum ; and, finally, on the heart. 8. Recovery is followed by no bad results. 9. In fatal cases, the functions are destroyed in the following order : *a.* the cerebral ; *b.* the voluntary muscular ; *c.* the respiratory ; *d.* the heart. 10. The substance, in small proportions, prevents, in some degree, the coagulability of the blood ; and, in large quantities, stops the process of coagulation altogether. In large quantities, it also destroys the blood-corpuscles, and produces general destruction of blood. But to produce deep insensibility, the dose administered need not be so large as to lead to serious derangement of blood. 11. The phenomena observed correspond with those observed under chloroform ; and the balance of evidence is, that they are the result of the action of chloroform. 2. Therapeutically, the agent is to be accepted as the rival of opium. It promises to be useful in cases where there are increment of animal heat, muscular spasm, and pain. It will be worthy of extensive trial, in tetanus

especially. The dose of hydrate of chloral for a child is seven grains; for an adult, the dose may be extended to one hundred or even one hundred and twenty grains.

ART. 117.—*New Experiments with Hydrate of Chloral.**

By MM. DREULAFOY and KRISHALER.

(*Gazette Hebdomadaire*, No. 42.)

"It results from our experiments on rabbits that one may produce at will with hydrate of chloral exaggerated sensibility, or complete insensibility.

"Subcutaneous injections in moderate doses produce in animals well-marked excitability. Doses beyond two grammes introduced in like manner produce curious degrees of insensibility. This insensibility, in proportion to the increase of dose, becomes absolute and complete; it may continue for several hours.

"Chloral injected into the stomachs of rabbits by means of an œsophageal tube will give less constant effects; these effects depend very much on the presence of food, in greater or less quantity, in the digestive tube. In every respect the effects obtained are analogous to those which are rendered by subcutaneous injections, but larger quantities of the agent are required, and the phenomena are controlled with greater difficulty.

"These experiments have supplied, with regard to the effects of chloral on the circulation and respiration, results which are given in résumé in the following conclusions:—

"1. Chloral in small doses excites sensibility; in elevated doses it reduces it gradually to complete anæsthesia.

"2. The narcotized animals pass through an anterior state of excitability.

"3. The animals in whom anæsthesia is general and absolute, may remain in this condition for several hours; they then almost invariably succumb.

"4. Sleep exists with hyperæsthesia as with anæsthesia; in the latter case the resolution is absolute.

"5. Chloral modifies profoundly the number and the rhythm of the movements of the heart; it causes progressive slackening of the movements of the diaphragm, and lowers considerably the temperature.

"6. The phenomena excited by chloral are, in many points, different from the phenomena caused by chloroform, although the anæsthesia is equal in the two cases.

"In fine, rabbits treated by doses exceeding 2·50 grammes are always rendered anæsthetic; by doses above 3·50 grammes they were rendered anæsthetic and killed. By doses below 1·50 grammes they were put to sleep, but neither rendered anæsthetic nor killed; with doses below 60 centigrammes no effect was obtained."

The authors intend to devote a future contribution on the points

* Communicated to the Académie des Sciences.

whether there be an intermediate dose, and a particularly favourable mode of exciting not only reduction of sensibility, but complete insensibility, without causing death.

ART. 118.—*Trials of Chloral at the London Hospital.*

(*British Medical Journal*, October 23.)

In last week's number of the *Lancet*, there is a notice of the employment, by Dr. Ogle, of the hydrate of chloral, in small doses (five or ten grains) with great benefit. We have seen it tried in the London Hospital in two cases, but in much larger doses. A dose of half a drachm was given to a man with disease of the elbow joint; and, as this produced no effect in three quarters of an hour, a second dose was given. No appreciable effect followed, except that the man complained of a griping pain in his stomach. He had complained of this before, however. A dose of half a drachm, on the same night, was given to a patient with disease of the ankle-joint; and then a second in about three quarters of an hour. This patient slept a little during the night. He complained of a good deal of headache in the morning. The next night, this patient had three doses of half a drachm each, at intervals of half an hour. In half an hour after the last dose he was sound asleep. The sleep seemed quite natural. He woke two or three times in the course of the night; and when he woke in the morning, said he had been troubled with a frightful dream. He had no headache, and seemed well satisfied with his sleep. That night he had a dose of a drachm, without appreciable effect, and then half a drachm was given, after which he went to sleep. He did not sleep continuously, but, when he woke in the morning, was without "dreams" or headache, and felt quite refreshed.

The first patient did not care to have the medicine again the second night, but, on the third, he took a dose of a drachm without effect. A second dose of half a drachm sent him to sleep, but he woke in the night, the nurse said. In the morning he expressed himself as quite comfortable. The cases were under Mr. Hutchinson's care.

It appeared, therefore, that doses of half a drachm, at intervals of half an hour, were quite safe in adult males, and would procure natural sleep. In neither case was sleep produced within half an hour of the last dose. No further trials, however, were made, on account of the expensiveness of the drug. If Dr. Ogle's small doses should prove effectual in checking mental disquietude, the expense will, of course, not be so serious an objection. The chloral used at the London Hospital was obtained from Mr. Squire.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 119.—*Mr. Le Gros Clark's Lectures on Shock and Visceral Lesions, at the Royal College of Surgeons.*

(*The Lancet*, June 5.)

IN continuation of his subject of last year, Mr. Clark, on the 2nd inst., devoted his first lecture to Injuries of the Brain and Spinal Cord and their Consequences. He commenced by apologising for trespassing somewhat upon the province of the physician in a region where symptoms due to mere functional disturbance, to organic change, and to actual injury had so much in common. Tetanus was a malady essentially the same, whether idiopathic or due to an external injury; though the former was the more amenable to treatment, perhaps because the exciting cause was more accessible, or the disturbance more purely functional. Mr. Clark then sketched the main symptoms of tetanus. Pain in the epigastrium was one of the earliest. The obstinate constipation, frequent during the course of the disease, was not to be accounted for by mere spasm of the sphincter, but pointed, he thought, to an affection of the sympathetic. Symmetrical spasm was the usual type, but sometimes it was unilateral, corresponding to the position of the injury. In a boy in St. Thomas's Hospital this occurred in consequence of an injury to the ulnar nerve. In rare cases, delirium supervened towards the close of the disease.

Tetanus was occasionally met with in the lower animals, especially in horses. In them it was generally due to exposure to cold, and was as little amenable to treatment as in man. The most effectual system consisted in absolute isolation and undisturbed repose, from which they might draw a useful lesson in the treatment of a malady that depended for its sustenance so much upon extraneous excitement. The most acute case Mr. Clark had ever known to recover was treated by Mr. Travers, by injection of tobacco into the rectum. Prostration ensued so severe as to threaten life, but the tetanus was relieved and the patient rallied and recovered. Not much importance was to be attached to any pathological appearances recorded as occurring in tetanus, except those changes in the spinal cord discovered by Mr. Lockhart Clarke—wasting and disintegration in the grey substance, especially around the central canal, throughout its whole length. These structural changes were probably not present in cases which recovered.

In studying these and other allied conditions, such as hydrophobia, epilepsy, hysteria, chorea, it was impossible to resist the conclusion

that they were dependent on both centric and eccentric causes. Many of the eccentric cases were purely functional and remedial, whilst others of the same class were accompanied by organic change, and therefore resisted treatment. Whenever centric, the cause must be organic change, and recovery, as a rule, if not invariably, hopeless.

In conclusion, Mr. Clark discussed the question of the propriety of operative interference in some cases of fracture of the spine. He believed in the present state of knowledge, trephining to be unjustifiable. By post-mortem evidence the cases were excessively rare in which it could be of service; and in those in which the symptoms were sufficiently marked to justify interference, injury to the cord had occurred, far beyond repair; while those slighter cases, in which alone it would be likely to do good, were much more likely to recover, partially or completely, if untouched, than if complicated by so grave an operation.

Lesions of the Thoracic Viscera formed the subject of Mr. Clark's second lecture. The elasticity of the chest-walls, he remarked, physiologically essential for respiration, also protects the viscera remarkably from the consequences of external violence. Fracture of the sternum alone is rarely the consequence of direct violence, but is more commonly caused by forcible flexion of the spine. The fracture is then simple and transverse, and displacement of the broken bone is prevented by the strong lateral relations of the sternum. Fracture of the ribs, too, is more common from indirect than from direct violence; and the lung then mostly escapes, though local pleurisy usually ensues. The higher the rib fractured the more serious the injury, from the greater frequency of wound of the lung. Much hæmorrhage in such cases is rare in civil practice, though wound of the lung commonly entails a little hæmoptysis and some local pneumonia. The shock in such instances is usually transient, but is now and then severe in contusions of the chest. In one case of a heavy weight falling on a boy's chest the collapse was profound, though his entire recovery in a few days proved that there could be no organic lesion.

Wound of the lung in fractured ribs is nearly always due to direct violence—a sharp circumscribed blow, or else forcible compression of the whole of the walls of the chest. Its pathognomonic sign is the escape of air from the tissue of the lung. Whether that escape is into the pleura or subcutaneous cellular tissue depends on the mechanical correspondence of the wound in the lung to that in the costal pleura, such as may be determined by adhesion between the two surfaces, or the degree of distension of the lung at the moment the fracture occurs. The rapidity of the spread of emphysema may be taken as a measure of the gravity of the injury to the lung. The accumulation of air in the pleura is sometimes considerable, so much so as to cause paracentesis to be contemplated. But when the distension is greatest, air ceases to enter the lung, or be pumped into the pleura, and then the lung heals and expands *pari passu* with the removal of the air. This removal is accomplished by the constituent gases being dissolved by the fluids of the part, and thus absorbed.

Of pulmonic hernia Mr. Clark related an interesting case. A man was knocked down by the pointed shaft of a vehicle, which struck his

chest just below the clavicle. At the seat of injury at each inspiration a large crepitant tumour presented itself, which disappeared at each expiration, leaving a deep depression capable of containing a couple of ounces of fluid. At the spot there was a large gap in the chest walls from the absence of the second rib, which, near its attachment to the sternum, was displaced and driven in. Next day general emphysema commenced, and broncho-pneumonia set in, but the symptoms gradually subsided, and the patient recovered. The gap remained, but presented more consistence, and the inspiratory bulging was scarcely perceptible.

Contusion of the lung without fracture of the chest walls is rare, but may occur. Congestion of the lung is not an unfrequent consequence of pugilistic encounters, and may lay the foundation for the organic disease which so often proves fatal to those engaged in them. Serious functional derangement without organic lesion may occur from simple concussion of the chest, transient, and subsiding without ulterior results. There is partial arrest of the flow through the capillaries, causing engorgement of the vessels. This condition is evidenced by defective resonance, and other signs. The shock appears to paralyse the vasi-motor nerves. Death may occur under these circumstances, and that rapidly.

Penetrating wounds of the lung are rare in civil practice. Their chief danger consists in the early loss of blood. The risk of subsequent inflammation proving fatal is less than that of the hæmorrhage. The pneumonia does not extend from the seat of injury. The lung implicated becomes permanently solid, and, unlike the plastic deposit in non-traumatic pneumonia, the fibrinous deposit in the lung is not absorbed without obliteration of texture, all the tissues being involved in the effort to repair the breach of substance.

Injuries of the neck and throat formed the subject of Mr. Clark's third lecture. The diagnosis of wounds of the air-passages, he remarked, is easy. In cut-throat it is usually the upper part that is opened,—rarely the trachea. The hæmorrhage in such cases is often severe, especially when the wound is in the neighbourhood of the hyoid bone, and to arrest it Mr. Clark has twice had to tie the common carotid. After the first few days the chief danger is from the lung mischief that frequently follows. The amount of shock varies considerably, and is greatly influenced by the previous mental state of the patient. It may be trivial when the wound is the result of pure accident; while in suicidal wounds, where the previous moral depression has been great, death may result from pure shock. In one of Mr. Clark's cases, though there was not much hæmorrhage, the temperature fell to 91° an hour after the injury had been inflicted. Sometimes bodily suffering is the motive for suicide; in one case it was an intense precordial pain, really dependent on a commencing attack of pericarditis, of which the patient ultimately died.

Scalding of the fauces and throat in young children is attended by a considerable amount of shock, and may be fatal from swelling of the glottis, or, more frequently, from the subsequent pneumonia. Mr. Clark is sceptical as to the beneficial results of tracheotomy in such cases. He believes by far the most common cause of death to be

inflammation of the lungs, produced, not by extension of inflammation to them, but by nervous shock, causing congestion and its consequences, through the influence of the sympathetic and the pneumogastric. He cannot regard tracheotomy as an unimportant operation in a child, or as expedient except under the most urgent circumstances. The dyspnoea for which it is performed is partly dependent on the state of the lungs, and may be relieved by poultices, &c., when tracheotomy would be fatal. In many cases operated on, the pulmonary changes which are the immediate cause of death may be referred with more show of reason to the operation than to the original lesion.

The impaction of foreign bodies in the air-passages is not very common. Not more than two or three such cases have been under treatment in St. Thomas's Hospital during the last forty years. The symptoms vary according to the position of the foreign body. The inflammation excited by its presence often proves fatal when the obstruction to respiration does not.

After alluding briefly to the subject of foreign bodies in the pharynx and œsophagus, Mr. Clark concluded by drawing a parallel between the injuries of the brain and lungs. Both organs are contained in cavities which may be fractured, and that without injury to the contents; both organs suffer injuries of the same kind—concussion, laceration, extravasation of blood, &c. The vicarious performance of function dependent on the quality of each organ is more effective in prolonging life in lesions of the lungs than of the brain; but the relative mortality in either instance is due rather to the facility with which the disintegrated tissue and the products of inflammation are discharged from the chest than from the skull. There is a greater tendency in the lung to the limitation of the morbid action to the proximity of the injured part; in the brain the fatal issue from secondary cases is almost invariably the effect of the extension of inflammation, and consequent disorganisation of tissue, involving some immediately vital part of the encephalon.

ART. 120.—*On Acupressure and Torsion.*

By J. COOPER FORSTER, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

The present remarks of Mr. Forster are in continuation of a former paper published in the Reports, and are founded upon fourteen cases from his own practice, together with two others. In five of them Mr. Forster used torsion alone, and in one case it was partially adopted, and in all successfully. One of the undoubted advantages of torsion is the absence of a foreign body of any kind in the wound; but Mr. Forster thinks that there are cases when the use of both torsion and acupressure may be advantageous. Although surgeons in general consider that the ligature is the safest plan for arresting hæmorrhage, yet it must not be forgotten that there is danger of hæmorrhage arising when the ligature is separating, and this danger is probably as great as the removal of a

pin. Mr. Forster states that for the last two years he has in no case used a ligature where any attempt has been made to obtain adhesion in a wound, or where he has been able to practise torsion; and thus he finds it difficult to see in what cases ligatures need be used at all.

ART. 121.—*Further Observations on the Treatment of Aneurism by Iodide of Potassium.**

By GEORGE W. BALFOUR, M.D., F.R.C.P.E.

(*Edinburgh Medical Journal*, July.)

The facts stated in this paper tend to prove that iodide of potassium is not only curative in aneurisms already developed, but that it also acts remedially and prophylactically in the aneurismal diathesis.

ART. 122.—*On the Treatment of Aneurism by the Hypodermic Injection of Ergotin.*

By Prof. V. LANGENBECK.

(*Berliner klinische Wochenschrift*, No. 12; and *Gazette Hebdomadaire*, No. 29.)

The cases given in Professor Langenbeck's communication are incomplete. The author thinks, however, that as aneurisms are relatively of rare occurrence, it is desirable that investigations should be made as early as possible, in order to demonstrate the value of a new method of arresting the development, if not of bringing about the cure, of large tumours of this kind, which are inaccessible to surgical means. Ergot of rye is a valuable remedy in obstetrics, from its power of exciting uterine contractions, and arresting menorrhagia. One is evidently justified in concluding from this that ergotin acts upon the smooth muscular fibres, and excites their contractions. This consideration led Professor Langenbeck to experiment with injections of ergotin in a case of aneurism.

Case 1.—The patient was a man aged forty-five years, of a fairly robust appearance, the father of several children, and previously in good health. In the year 1864 he first noticed pains in the shoulder and right side of the neck, which extended to the corresponding arm. These were attributed to rheumatism, and treated without success by sulphur baths; they increased in intensity, and ultimately disturbed the man's rest; the arm also became weak. In September the patient, when looking in a glass, observed on the right side of the neck a swelling which presented marked pulsation. At the commencement of October he consulted Professor Langenbeck.

In the right sub-clavicular fossa there existed a pulsatile tumour larger than a pigeon's egg. The pulsations were prolonged across the triangular fossa to the inner part of the neck, which was a proof that the subclavian

* *Edinburgh Medical Journal*, July, 1867; and *Half-Yearly Abstract of the Medical Sciences*, vol. xxxi. p. 148.

artery as well as the innominate, participated in the dilatation. The cardiac beats were normal, but rather feeble for the stature of the patient. A bruit de souffle was heard over the aneurism, and also over the innominate artery. The pulse of the right radial was stronger, but beat a little later than that on the left side. The pulsations of the aneurism were intense, and the pains in the arm very severe. Professor Langenbeck commenced the treatment by applying the moxa over the aneurismal sac, according to the proceeding of Jacobson. From October to December a large moxa was applied on four occasions, and caused profuse suppuration. This plan resulted in amelioration; the pains ceased almost entirely, and the patient returned to his home, and from January, 1865, to the summer of 1868 was able to attend to his affairs; the aneurism had diminished slightly in size, but continued to pulsate. After a stay at the baths of Mirdray, the patient returned to Berlin on January 2, 1869.

The following was his condition at this period:—The aneurism had acquired a very considerable size, and formed above the clavicle a swelling as large as the fist, the pulsations of which were so strong that the hand, when applied over it, was forcibly raised. The pulsations could be perceived even under the clavicle, which itself seemed to be considerably protruded. When the patient walked the pulsations were indicated by the rhythmical oscillations of the head. The sterno-mastoid and the triangular fossa were forced outwards; the pulsations of the right carotid, and of the corresponding superficial temporal could not be perceived; the patient complained of violent pain in the right arm, which prevented him from sleeping; he could not lie upon his back, but rested in bed in the sitting position, and with the body inclined to the right side; in this position only was he enabled to procure constant, uninterrupted sleep; he was much affected by an increasing weakness of the right hand; he could not write, and finally was unable to sign his name; there was undeniable wasting of the hand, as in muscular atrophy; the inter-metacarpal space separating the thumb from the index finger was excavated, and the movements of these fingers were extremely imperfect; the flexors of the fingers and the muscles of the hand and thumb were paralysed, and the sensibility of the hand was diminished, principally along the track of the ulnar nerve; the last joints of the fingers were swollen.

On January 6, M. Langenbeck injected subcutaneously, for the first time, an aqueous solution of ergot of rye. This, like the subsequent injections, was made in the morning, between eleven and twelve, and always under the integument covering the aneurism. On the following morning at the visit, the patient was in a state of delight, as he had been able to rest during the whole of the previous night, a phenomenon which he attributed to the injection. During the day after the injection, the patient could still sleep, and with a dorsal decubitus, the pain in the arm was diminished, the pulsations of the aneurism less powerful, and the tumour was considerably reduced in size.

Professor Langenbeck does not enter into too minute details of the history of this patient, but confines himself to the statement that from January 6 to February 17, altogether two grammes of ergotin were injected. The injections were made at intervals of about three days on an average, and the quantity used on each occasion was from 0.03 gramme to 0.18 gramme. Amelioration progressed uninterruptedly. The patient, who previously had been unable to hold a pen, handed over to Professor Langenbeck on February 10 a sheet of paper on which he had written his name perfectly well; and, on the 17th, wrote without

any trouble a long letter to his brother. The movements of the upper limb were re-established, and instead of its being necessary to suspend the arm in a sling, he now walked like anyone else, and carried a stick in his hand. The aneurism still presented pulsations, but these were much less forcible than previously, and the tumour was sensibly diminished in its circumstantial extent. The neck was flattened, and the triangular fossa internal to the sterno-mastoid re-established; it was, however, unfortunately, impossible to make sure to what extent the diminution of the tumour had taken place.

Ergot of rye is employed against other hæmorrhages than those which take place from the uterus; hypodermic injections of ergotin were first employed by Eulenburg in a case of convulsive cough, with the idea that this agent acted as a narcotic, and the application of 1-18th or 1-19th of a grain was followed, according to this physician, by a diminution in the attacks of coughing. Drosche also employed those hypodermic injections in hæmorrhage, and observed an immediate action. Professor Von Graefe reports that some years since he injected ergotin on a patient in order to arrest an hæmoptysis which had not previously yielded to any remedy, and which never returned after this plan of treatment. Professor Langenbeck believes in the advantages of ergotin as an hæmostatic, but asserts that he has not investigated this subject sufficiently to come to any final conclusion.

General symptoms due to the injections were not observed once after the introduction of from 0·18 gramme to 0·30 gramme of ergotin on two consecutive days; the patient experienced scintillation in the eyes, and complained of acute pain in the right shoulder; vertigo and vomiting, as indicated by Eulenberg, were not observed.

Langenbeck employed the aqueous extract which does not contain the ethereal oil, the supposed toxic agent of ergot; the solution was composed as follows:—

Bonjean's aqueous extract	.	.	.	2 parts.
Rectified alcohol	.	.	.	7 "
Glycerine	.	.	.	7 "

The syringe contained 0·18 gramme of this solution, but the whole of its contents was not always injected. The injection was always made under the skin at the superficies of the aneurismal sac. Hæmorrhage was never produced.

Professor Langenbeck also gives a second case in which a single injection of 0·15 gramme of the aqueous extract of ergot of rye was followed by the complete disappearance of an aneurism of the radial artery, of the size of a filbert.

Arthur Steffens, a joiner, aged forty-two years, of robust appearance and with general good health, was admitted on February 14, in order to be treated for a wound received in the left humero-scapular region. On examination there was found, three centimetres above the articulation of the right hand, a tumour of the size of a filbert, which presented marked pulsation. The skin covering this was normal. The tumour was seated on the radial artery, which at this point was slightly bent into an arch. It was thought at first that this was not an aneurism, but repeated examination in the presence of several practitioners, established the fact that it really con-

sisted of a sacciform aneurismal tumour, having its origin from the inferior part of the radial artery. When the lateral margins of the tumour which extended beyond the artery were carefully seized between the fingers, the pulsations of the aneurism could be distinctly felt. These disappeared after digital compression, and after some seconds the tumour regained its original size. By compression of the humeral artery in the middle of the arm, the tumour disappeared rapidly and completely, and it afterwards gradually returned, with regular pulsations. After the compression had been discontinued, movements of rapid contraction in the fingers increased the size, and the pulsations, of the aneurism. The existence of a bruit could not be made out.

The patient declared that the aneurism had come on without any known cause some twenty years previously : it was very small at that time, but presented pulsations ; it had increased in size slowly, and never been painful. For two years it had remained stationary.

On February 17, Professor Langenbeck injected under the skin covering the aneurism 0·15 gramme of extract ergot of rye in the form given above. On the following day at the time of the visit, the aneurism could not be found. At two in the afternoon, probably owing to the movements of the hand during a repast, the tumour had become much smaller, and presented feebler pulsations. On February 19 a slight erythema, with some œdematous infiltration of the surrounding cellular tissue appeared about the puncture. These two epiphenomena gradually disappeared in the course of about eight days, and no traces of the aneurism then remained.

Twenty-nine days after the injection M. Langenbeck made a very careful examination, and found that the radial artery even at the seat of the tumour, was in a normal condition. Moreover, forcible flexion of the finger no longer produced any change in the aspect of the artery, whilst formerly this movement had caused the artery to project. As the wound of the opposite arm was not yet cured, the limb on which the aneurism had been seated could not be left at rest, and was used by the patient for all ordinary purposes.

The original idea which had induced Professor Langenbeck to attempt injections of ergotin, that is to say, the hope of exciting contractions of the smooth muscular fibres, seems justified by this case, because in arteries of the calibre of the radial, the smooth muscular fibres are much more developed than in the subclavian artery.

ART. 123.—*Treatment of Traumatic Tetanus with the Calabar Bean.*

By EBEN. WATSON, M.D., Surgeon to the Royal Infirmary,
Glasgow.

(*The Practitioner*, September.)

Dr. Watson records six cases of tetanus recently treated by him with Calabar bean. Dr. Watson has now treated ten cases of traumatic tetanus with this article, and had six deaths and four recoveries. He gives the following table of cases treated with the Calabar bean :—

	Cases.	Recoveries.	Deaths.
Dr. Watson	10	4	6
Dr. Alexander	2	2	0
Dr. Campbell	1	1	0
M. Bourneville	1	0	1
Mr. Ashdown	1	1	0
M. Bouchat	1	0	1
Dr. Macarthur	1	1	0
Drs. Boslin and Curron	1	1	0
Cases treated	18	10	8

"This statement, then," he remarks, "shows favourably for the bean. On the whole, however, I believe that the physiological effects of the drug form the best warrant for its employment in tetanus. We cannot expect infallible cures for any disease, far less for such a disease as this; but what I would urge is that, while we had no reason to look even for benefit from most of the remedies formerly used in cases of tetanus, we have reason from physiology to expect relief in that disease, even when we cannot hope for cure from the Calabar bean; and this has been marked by my experience of its employment. It will be noticed in reading the cases just related, that in all of them considerable relaxation was produced, and the patient often expressed himself as greatly relieved, even when there was little real or permanent improvement of his condition. Surely this is something gained, and surely it indicates that we may learn by-and-by to use the drug to still greater advantage, and cure a greater proportion of cases.

"The bean," he adds, "acts permanently on the spinal centres of motion, gradually obliterating voluntary power without affecting sensation. It early destroys the power of co-ordination of movements, and soon afterwards the susceptibility of reflex motions.

"While, therefore, the morbid anatomy of tetanus is by no means settled, yet from what is well known of its living pathology, it is evident that the bean, alone or combined with an anodyne, fulfils all the requirements of the case, and that it does so in a way more direct and physiological than is at all usual in therapeutics. We must not, then, be discouraged by a large proportion of deaths from tetanus, even in cases where the bean has been carefully and skilfully employed; neither must we think it useless, because sometimes it seems insufficient to combat this terrible antagonist. If in using it we are upon the right road, we can only attain to a better success by continuing to pursue that road until a better and safer has been discovered."

ART. 124.—*On Ligature of a Main Artery to arrest Acute Traumatic Inflammation.*

By C. F. MAUNDER, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

Mr. Maunder observes that the withdrawal of blood in the treatment of inflammation has generally been recognised as a valuable method of treatment: and even although general bleeding has been little employed

of late years, yet the local abstraction of blood by leeches and scarifications is still adopted with success. He argues that if the withdrawal of blood from the inflamed part is beneficial, it would be still more advantageous to cut off the arterial supply to the inflamed structures by means of a ligature, and, at all events, this plan is highly conservative, as no blood is withdrawn from the patient. Mr. Maunder then compares the results likely to ensue when an inflammation in or about the knee-joint, for instance, is treated on ordinary principles or by ligature of the femoral artery; and, although there is great danger in either case, yet he inclines to give his opinion in favour of the treatment by ligature. He then adverts to a case treated on this suggestion by Mr. Little, the patient being a man aged thirty-three, who had sustained a lacerated wound above the patella, opening the knee-joint. The results of the proceeding were very satisfactory, and, indeed, the application of the ligature was attended with immediate relief of the symptoms. But the question also arises whether the use of the tourniquet would not be attended with as much success as the ligature of the artery in such cases as are now alluded to; and, in fact, Mr. Jackson, of Sheffield, has treated successfully a punctured wound of the knee-joint by compression of the femoral artery with a tourniquet. Mr. Maunder therefore compares the results of ligature and of compression by the tourniquet; and while he admits the dangers attendant on the ligature, he thinks that they are probably exaggerated, the experience of surgeons being chiefly derived from cases of aneurism thus treated. In these last named cases the arterial system is known to be diseased, while in traumatic inflammation the arteries are in all probability healthy. Still, there are advantages in favour of the tourniquet, such as its great simplicity and freedom from direct danger, while, on the other hand, its employment involves the expenditure of valuable time, during which the disease may be making rapid and fatal progress.

ART. 125.—On *Blennorrhagic Rheumatism*.

By M. ALFRED FOURNIER.

(*Annales de Dermatologie et de Syphilographie*, Nos. 1, 2, 3, 4.)

Etiology.—All that is at present known concerning the etiology of blennorrhagic rheumatism may be briefly expressed as follows:—

1. Blennorrhagia is the essential, effectual, and indispensable cause of the rheumatic symptoms which, taken together, make up what is called blennorrhagic rheumatism; it is this disease which determines these symptoms, and which, *by itself*, suffices to produce them independently of the concurrence of any other appreciable provocation. Reciprocally, these symptoms are never manifested without blennorrhagia; under the form and with the symptoms which are peculiar to it, the affection called blennorrhagic or urethral rheumatism is never manifested, unless in connexion with blennorrhagia.

2. It is *urethral* blennorrhagia alone which is accompanied by this complication.

3. There exists in certain subjects an unknown, indefinable, but very marked predisposition to this variety of symptoms; such a predisposi-

tion and so powerful an idiosyncrasy, that with patients who are so unfortunately endowed, every fresh blennorrhagia is almost inevitably the origin of a fresh attack of rheumatism.

4. Blennorrhagic rheumatism is produced *in the female* as well as in the male.

The usual causes of ordinary rheumatism have no influence upon the production of blennorrhagic rheumatism. Cold, draughts, moisture, &c., which play so great a part in the etiology of the first disease, are absolutely strangers to the development of the second.

Recent researches, of which blennorrhagic rheumatism has been the object, have entirely modified the symptomology of this affection.

1. Blennorrhagic rheumatism is not merely an affection of the joints occasionally complicated with a special form of ophthalmia, but is a more general disease, which may extend to various organs, and present symptoms of inflammation of certain tendinous and mucous sacs, of muscular rheumatism, of simple pains, of different forms of ophthalmia, of neuralgia of the sciatic and other nerves, of phlegmasiæ of the periosteum, and of inflammatory lesions of the endocardium, pericardium, venous system, of the rachidian and cerebral meninges, of the liver, salivary glands, &c., &c.

2. Blennorrhagic rheumatism may exist without any joint affection, and be manifested by special forms of ophthalmia, tendinous synovitis, muscular pains, neuralgia, or periostitis. In 15 out of 52 cases of this affection observed by M. Fournier, the joints remained perfectly healthy.

3. By making a numerical comparison of the joint affections and the non-articular manifestations of blennorrhagic rheumatism, one will arrive at the unexpected result that the latter are much more numerous and frequent than the former. Even in cases where the joints are affected, the non-articular manifestations are generally considerably superior.

4. Blennorrhagic rheumatism, though rarely affecting more than three or four joints simultaneously, presents a multiplicity and a dissemination of symptoms equal, if not superior, to what are observed in simple acute rheumatism. Several symptoms may be affected, and these may be produced, either at the same time or in succession, arthropathies, attacks of synovitis, ocular phlegmasia shifting from one eye to the other, acute hygronide, periostitis, muscular pains, &c. Two cases of blennorrhagic rheumatism are related by M. Fournier, to confirm the above statements; in one the local morbid symptoms amounted to 18 in number, and in the other to 27.

The articular lesions of blennorrhagic rheumatism present four different forms.

1. The form of hydrarthrosis.
2. The rheumatic or arthritic form.
3. The painful form (simple arthralgia).
4. The knotty or pseudo-gouty form.

The form of hydrarthrosis is characterised by relative ease of the joint, by the absence of local or general reaction, by a remarkable abundance of effusion, and by a tendency to chronicity. This has hitherto been generally considered as the common form of blennorrhagic rheumatism, but it really occurs much less frequently than is supposed. From M. Fournier's statistics it presents a much lower rate of frequency than other manifestations.

The rheumatic, or arthritic form, presents symptoms resembling those of an attack of acute simple rheumatism, or of an ordinary articular phlegmasia. A case is reported of blennorrhagic arthritis of the elbow, terminating in suppuration. This, M. Fournier states, is the only authentic case in science of such a mode of termination.

Simple Arthralgia.—In certain cases rheumatic blennorrhagia is met with under the form of simple articular pains. The joints thus affected present to the most minute examination nothing abnormal; they preserve the plenitude of their movements, they are neither red nor swollen, they can be moved without any crackling sound, and on pressure are scarcely tender, and often absolutely painless. Pain with movement of the joints is the only symptom by which this affection is characterised. Thus blennorrhagic arthralgia may be observed under different circumstances—first, in the course of recent blennorrhagia, and coincidently, in general, with other symptoms of blennorrhagic rheumatism; second, with long-standing blennorrhagia, and then most commonly without other manifestations.

The knotty, or pseudo-gouty form, is a complex affection, involving not only the joints but also the peri-articular fibrous tissues, and even the periosteum. This form is characterised by the singular deformity which it gives rise to in the joints, which consists in peri-articular swellings, apparently resulting either in hypertrophy of the osseous extremities, or in hyperplasia of the peripheral fibrous tissues, and constituting about the joint nodosities, which present some analogy in their aspect to the deformities met with in gout. According to the case and the age of the patient, the joint thus affected is painful or free from great tenderness, rosy, or without abnormal coloration, completely immoveable, or susceptible of imperfect motion. To the touch the affected part is sometimes found surrounded with diffuse solid effusion; at others, on the contrary, the swelling gives the sensation of a subcutaneous osseous tumour, and of a hyperostosis of the articular epiphyses. This form of blennorrhagic rheumatism has been met with in the phalangeal joints, in the metacarpo-phalangeal joints, in the carpo-metacarpal joints, and in the joints of the great toe. The blennorrhagic origin of this form of articular lesion is proved by the following facts:—In all cases, without exception, in which they have been observed, they have always coincided with other unmistakable manifestations of blennorrhagic rheumatism; in all cases, without exception, they were presented in non-rheumatic and non-gouty subjects; and in almost every instance they were manifested in those peculiar subjects with whom every blennorrhagia is an almost certain origin of rheumatic complication. The gouty form of blennorrhagic rheumatism has generally a long duration, lasting for several months.

Blennorrhagic periostitis and periostosis, though seldom recognised and generally confounded with the articular manifestations of blennorrhagic rheumatism, are of pretty frequent occurrence. This variety of blennorrhagic lesions presents two forms—one of simple inflammatory fluxions of the periosteum (periostitis); the second of true tumours adherent to the periosteum, and resulting, in all probability, from a plastic infiltration between the membrane and the bone (periostosis).

Blennorrhagic rheumatic periostitis.—It frequently happens that the following symptoms are observed in the course of an attack of blennor-

rhagic rheumatism :—Pain is felt by the patient at some circumscribed spot over a bone ; on exploration, one learns that very acute suffering is excited by pressure at this part, which is generally limited in extent, irregular, and of the size of an almond or franc piece. Without this part, and in the neighbouring tissues, pressure causes no painful sensations. At the seat of tenderness, there is generally some swelling of the tissues, forming a slight projection. In rare instances the integument is somewhat congested, and of a rosy hue. This tenderness, and the slight swelling of the tissues, persist for a few days, and then yield and disappear, without any result. In some very rare cases, however, the tumefaction persists, and increases, and produces upon the bone an apparent plastic deposit, which forms a veritable periostosis. M. Fournier attributes this train of symptoms to a slight circumscribed inflammatory fluxion of the periosteum. The most frequent seat of this affection is the subcutaneous portion of some long bone, as the tibia and ulna ; it has also been met with on the spinous processes of the vertebræ.

The best treatment, according to M. Fournier, of these lesions, consists in the application of a small flying blister *loco dolenti*, or cupping. These means give rapid relief, and the cure is then readily perfected, by the application of tincture of iodine.

Blennorrhagic periostosis.—In certain cases, which are not absolutely rare, the periostitic lesions, which have been just described, instead of becoming resolved, give rise to the formation of solid exudations, which constitute true tumours (periostoses) at the affected parts. The tumour consists in a swelling on the surface of the bone, and, apparently, has its origin in the periosteal tissue. It is flattened and diffused, immovable, and adherent to the bone, painful at first, but becoming less and less tender ; resistant, hard, generally small, but susceptible in certain cases of acquiring a pretty considerable size. When once developed the tumour is of long duration. It may persist, in spite of all treatment, for several months. M. Fournier has observed that they nearly always terminate by resolution, but he cannot affirm that this is constant.

ART. 126.—*A Severe Case of Struma; Remarkable Benefit by the Waters of the Woodhall Spa.*

Under the care of Mr. PAGET.

(*The Lancet*, June 5.)

We publish the following case from notes kindly supplied to us by Mr. Henry T. Butlin, late house surgeon of St. Bartholomew's Hospital, because of the remarkable effect which was produced upon the patient by his stay at the Woodhall Spa, in Lincolnshire, to which he was sent by Mr. Paget. It would seem likely that this Spa offers peculiar advantages in cases of strumous cachexia.

J. B——, aged twenty-four, married, by trade a shoemaker, was admitted into St. Bartholomew's Hospital in July, 1868. Thin, pale, and emaciated. He suffered from a strumous abscess on either side of the neck, a large one between the shoulders, and a deep abscess at the top of the sternum, exposing the bone. From all these there was profuse

discharge. He complained of pain at the sternum, extending to the back. His appetite was extremely bad; his tongue red and dry; his pulse slow and very small. Frequent attacks of diarrhœa had helped to bring him into the miserable state of exhaustion in which he was admitted. He was first put upon a nourishing diet of essence of beef, eggs, milk, together with a large quantity of stimulants; but, in spite of all, he remained for some time in so precarious a condition that his life was despaired of. The wounds were dressed with a lotion consisting of one drachm of tincture of iodine, one drachm of glycerine, and four ounces of water.

In August, Mr. Paget kindly offered at his own expense to send him to the Woodhall Spa for a month; but the patient's health was such that for some days he was quite unfit to be moved. He fortunately rallied, however, and it was thought he might safely undertake the journey. Nevertheless, it was scarcely hoped that he would be seen alive again. However, a month afterwards he walked to the hospital to show himself. He was much stouter; pulse stronger; tongue clean and moist; appetite good. The deep wounds from which he had suffered were nearly healed, and the attacks of diarrhœa had ceased.

Mr. Cuffe has supplied us with the following notes of progress and treatment whilst at Woodhall.

Six ounces of the water, tepid, daily (except when the diarrhœa was urgent); bath, 95°, alternate days, half an hour; nourishing diet, with, during the first week, three ounces of brandy daily; afterwards half a pint of porter each day. The wounds were dressed with lint wrung out from Spa-water. He had a severe attack of diarrhœa during the second week of his stay, and this prostrated him to such an extent that his life was for some time despaired of. For this he took chloric ether, morphia, aromatic confection, and brandy. From this date he gradually improved in strength and appetite until he left the Spa.

ART. 127.—*The Treatment of Nævus.*

By HENRY BATEMAN, F.R.C.S.

(*The Lancet*, November 6.)

The treatment consists in the application of a tartarised antimony plaster to the surface of the tumour, and allowing it to remain until pustules resembling small-pox are produced, and sometimes still larger. The plaster Mr. Bateman has used is ordinarily made by having one part of antim. tartarizatum mixed with two parts of melted empl. resinæ, and then spread upon thin leather or linen. It ought to cover the entire nævus completely, but need not extend beyond it. If it be detached from any cause before it has produced a sufficient amount of inflammation and pustulation it should be renewed immediately. If there be too much inflammation, poultices and fomentations of warm water may be applied. Should the skin be unusually insusceptible, or the nævus unusually thick, equal parts of tartarised antimony and resin plaster may be used.

With comparatively thin nævi the former strength is amply sufficient, and sometimes a single plaster will produce inflammation and pustula-

tion enough to effect a cure. Should the nævus be thicker than usual the stronger plaster may be used, and it may be repeated again and again until the nævus sloughs.

ART. 128.—*On the Treatment of Old Luxations.*

By M. LAFAURIE.

(*Thèse de Paris; Archives Générales de Médecine, No. 5.*)

The author concludes his work with the following propositions:—

When a luxation remains unreduced, a new joint is generally formed, which becomes moveable and capable at length of replacing the normal articulation.

Exercise increases the mobility and modifies the form of the joint, so as to render it fitted for performing movements often very extended.

A luxation which cannot be reduced ought not to be abandoned, for it is yet possible to do much for the patient.

The surgeon may in course of time re-establish gradually, and without violence, the functions of the injured limb to the satisfaction of the patient.

From this it results that if in presence of a luxation, whatever may be its date, any danger be revealed by an attentive examination, it is a better plan to seek a re-establishment of the movements of the joint than to attempt reduction.

An excessive resistance of the muscles on the slightest traction, an extensive engorgement of the soft parts, atheromatous degeneration of the axillary artery, and, generally speaking, any lesion of the vessels and nerves in connexion with luxation of the shoulder, are all contra-indications to attempt at reduction by force.

Force, in very old luxations, should respect certain limits, which vary according to the patient and according to the lesion, and which it is difficult to appreciate in each special case.

These rules being laid down, M. Lafaurie gives the following instructions as to the treatment of unreduced luxation of different joints.

The shoulder.—Subcoracoid and subglenoid luxations ought to be reduced up to the end of the third month. Intra-coracoid and subclavicular within the second month. The reduction of the subspinous and the subacromial luxations may be attempted at a more advanced period, at the fifth month, and perhaps at the sixth, as it is possible to act directly upon the luxated extremity, and there is but little danger to fear.

These limits may be exceeded if the conditions seem favourable; provided the surgeon avoids producing an excess of force, which might prove hurtful.

Fore-arm.—Reduction should be attempted up to the end of the second month.

This limit might be exceeded, but it is necessary to recollect that an unreduced fore-arm may become through exercise almost as useful as its sound fellow.

Hip-joint.—Reduction should be attempted up to the end of the second month. Beyond this period good results are rare, and the number of successful cases does not exceed that of failures.

ART. 129.—*On Extension with Weights.*

By Dr. VINZENZ CZERNY.

(Wiener Medizinische Wochenschrift, xix. 35-37; Schmidt's Jahrbücher, No. 8.)

In Billroth's clinique extension is applied in the treatment both of contractions remaining after old inflammatory affections of joints, and also of recent inflammations. A long strip of adhesive plaster, about one inch and a half in breadth, is applied to the outer and inner sides of the foot, the two ends being carried upwards as far as below the condyles of the femur, whilst the centre of the strip forms a sling which extends about four inches below the sole of the foot. The sling thus formed is enclosed and made fast by circular strips of plaster applied round the leg. To protect the ankles from pressure, the sides of the free portion of the sling are kept asunder by a piece of wood about five inches in breadth. To the middle of this piece of wood is fastened the extending cord, which is carried over a pulley fixed to the edge of the bedstead, and supports a sandbag or weight, of from two to eight pounds, according to the age of the patient. The weight is to be increased gradually, but need scarcely ever exceed eight pounds. Counter-extension is only applied when heavy weights are used.

In affections of the hip-joint the body of the patient is best fixed by means of a linen bodice, to the axillary portions of which are fastened two straps, which are tied to the back parts of the bedstead. Should extension of the knee-joint be required, it is most convenient to carry the counter-extensions from the thigh. A well-padded band is applied round the thigh, close above the femoral condyles, and from the sides of this two cords are carried obliquely outwards and backwards, to be fastened in a knot at the side of the bedstead. In cases of contraction at the hip-joint, with much adduction and inversed rotation of the thigh, it is better to use the gypsum knee-cap, to the inner side of which can be fastened a small staff of wood, about six inches in length. This should be placed vertically on the gypsum bandage, and at its point the extending cord is to be fastened. This runs over a pulley placed to one side, and when weighted powerfully rotates, and at the same time abducts the thigh. A binder placed round the pelvis, from which an extending cord passes over a pulley on the sound side of the body, serves as a means of counter-extension.

In the case reported by Dr. Czerny both forcible and prolonged extension were carried out; not exclusively the one or the other, but supplementarily. When success is not obtained with one method, the other is tried; and a second attempt at forcible extension often succeeds much better when prolonged extension by weight has been employed. There are some cases in which the good results of the immovable apparatus applied after forcible extension are manifest; of twenty-one reported cases there were twelve of distortion of the knee-joint, five of which resulted from injury, one from inflammation after delivery, two from exposure to wet and cold, and five from some undetermined causes. In one case the contraction was caused by the cicatrices of syphilitic ulcers. The first seven were cases of contrac-

tion, the other five cases of florid inflammation. In two cases prolonged extension alone sufficed for a cure; in one case the same treatment associated with division of the tendons of the biceps, semi-membranous and semi-tendinous muscles, restored the utility of the limb. In four cases prolonged extension was used as an auxiliary to forcible extension, and in most with very good result. In one case forcible extension alone was followed by excellent results. In the five cases of acute inflammatory disease, straightening was generally attempted through long continued extension, in one case with, in another case without, especially good result. In two fatal cases the treatment was not in fault, but death was owing to tuberculosis and suppurative inflammation. In the composition of the immovable bandages either gypsum or water-glass was used. It is certain that with contraction of the knee an attempt at prolonged extension should be made, since this method is much less liable to cause relapses of inflammatory symptoms. The febrile action is almost nil, whilst after forcible extension tolerably sharp fever often comes on. Even when forcible extension is made, it is not carried out to too great an extent; one may rest satisfied with a slight degree, and carry out the rest of the treatment with prolonged extension. With very painful acute inflammatory affections of the knee-joint one would rather decide upon the plan of rapid restoration of the position of the limb under chloroform than upon the very troublesome application of an extension apparatus; but upon this point indeed very long investigations are required. Certainly, the absolute immobility of the limb in a firm bandage after straightening with the simultaneous energetic application of ice leaves nothing to be wished for. Unfortunately, the hip-joint, on the other hand, cannot be kept at perfect rest by any apparatus, since the patient is always able to twist the pelvis and vertebral column.

Of nine reported cases of diseases of the hip-joint, two were contractions, and seven acute inflammations. The causes were, in six cases, injury, in one, scarlet fever, and, in two cases, undetermined. In the cases of contraction, straightening was followed by a good result; in one case there were contractions of both knees and both hips. When forcible extension is difficult, prolonged stretching can hardly be very effectual, as the pelvis cannot be fixed. On the other hand, it renders good service with acute inflammation so long as there is active muscular contraction, because this contraction is caused through reflex action set up by the pressure of the painful joint ends upon each other, which pressure is diminished by the dragging of the weights. This pain-relieving action in three cases was quite striking. The influence of the extension upon the perfect healing of the inflamed joint was less certain, as the number of cases was too small to afford any proof. The extension through strips of adhesive plaster was supported for several months. The method of extension, Dr. Czerny states, permits of improvement, and he directs the attention of surgeons to Mr. Barwell's splint, devised with the view of sparing the patient a constant confinement in bed.

ART. 130.—*On the Causes of Speedy Death after Certain Operations and Wounds.*

By Dr. AR. VERNEUIL.

(*Gazette Hebdomadaire*, May 28 and June 18.)

The following conclusions are given by the author at the end of an elaborate article on traumatic lesions:—

1. There are some cases in which death rapidly occurring after an operation or an accident cannot be accounted for either by the extent of the primary lesion, or by the development and extension of inflammatory symptoms set up by the wound.

2. Death, in these cases, seems to be due to a rapid change in the blood acting in the manner of septic poisons.

3. This morbid change, the nature of which is yet but little known, is developed by preference in subjects who are predisposed to its attacks by an anterior visceral lesion or by an abnormal state of the fluids.

4. This fact seems established with regard to alcoholism, diabetes, albuminuria, and renal lesions, but to this list it is right to add other states less frequent and less recognised, but, according to M. Verneuil, quite as influential; these morbid conditions are uræmia, leucocythæmia, various cachexiæ, lesions of the spleen and liver, cirrhosis, steatosis, amylosis.

5. Even when these anterior pathological conditions accidentally complicated with traumatism do not cause speedy death, they do not react less on the local phenomena of which the traumatic lesion is necessarily the seat. They impede or destroy the various stages of the reparatory processes and give rise to many affections of the wounds, which take the name of complications and often acquire a very considerable gravity; these are erysipelas, lymphangitis, diffuse inflammations, gangrene, secondary hæmorrhages, &c.

6. The knowledge of these facts is of the greatest importance in order to establish the prognosis, to lay down the indications and contra-indications for operation, to direct the local and general treatment of wounds, and finally, to appreciate equitably statistical results.

ART. 131.—*Cases Illustrating the Relative Value of Excision and Amputation.**

By J. H. BARNES, Consulting Surgeon, Liverpool Workhouse Hospital.

(*Liverpool Medical and Surgical Reports*, October.)

The author brought forward a number of cases of excision of the elbow, wrist, hip, knee, ankle, and tarsus, and compared their results

* Abstract of a paper read at a meeting of the Liverpool Medical Association.

with those of amputation. His general conclusions were as follows :— That in making a comparison between excision and amputation, we have to consider, 1st—the relative mortality of each operation. 2nd—the duration and nature of the progress towards recovery. 3rd—the nature of the results. Excision is favourable in the case of the elbow joint, but there are two dangers—viz., bony ankylosis, from the removal of too little bone, and a useless appendage from the removal of too much bone, or the too early extension of the limb. As regards the wrist, it is very difficult to excise it, without injury to the tendons, which would render the operation comparatively valueless. Excision of the hip-joint is decidedly unfavourable. No general answer can be given in respect to the knee-joint, each case being decided on its own merits ; the danger to life is greater in excision than in amputation, and the progress towards recovery is often tedious. Where the disease is the result of injury, or where the constitution is not worn out and exhausted, or of a thoroughly strumous character, excision may be performed. The results of excision of the ankle joint are not favourable, and it is a very difficult operation. The cases in which he had excised some of the tarsal bones, all did well.

Mr. Barnes gave the following as his experience of these operations required for diseased conditions of the several articulations.

Of the elbow joint he had had seven excisions, and all recovered.

The wrist joint he had partially excised once.

The hip joint he had excised twice, and both cases died ; while in one instance he had amputated through the joint with success.

The knee joint he had excised six times, with two recoveries. He had amputated above or through the joint in seventeen instances, of which twelve recovered.

In one instance he had excised the ankle with success ; of eight amputations below the knee, four recovered.

He had excised the tarsal bones (os calcis, cuboid, and cuneiform bones), and all these cases recovered.

Of thirteen amputations of the ankle joint (for the most part according to Mr. Syme's method), eleven made good recoveries, and two died.

ART. 132.—*Treatment after Electrical or Lightning Stroke.*

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(*Medical Times and Gazette*, September 25.)

When an animal has received a lightning stroke or an electrical shock which at one shock paralyses the heart, the death is the most complete and sudden of all deaths ; nothing, indeed, admits of being done. But in many cases the action of the heart continues after the respiration has ceased and after complete unconsciousness, and it might be expected in these instances that some line of treatment would be possible which should restore respiration and the other functions of life. In most cases every means which may be devised will fail ; but there are three methods of recovery which have been employed, and all of

which have been tested by experiment on the inferior animals with varying success. Dr. Richardson notices them in the order of their value.

Venæsection.—The first step to take, if called to a person stunned by lightning, is to draw blood from a vein. Dr. Richardson should himself be inclined to draw from the external jugular vein, and to lay the body perfectly horizontal, so as to get an easy outflow.

Artificial Respiration.—Dr. Richardson does not attach any importance to artificial respiration as a primary method of restoring animation after lightning shock, but he thinks it would be an admirable adjunct to treatment by free venæsection. Directly the heart were set at liberty from its bonds, the contraction of the right ventricle, effectively made, would send a wave of blood into the pulmonary circuit; and if then that charge of blood should be allowed, by means of artificial respiration, to meet a charge of fresh air, the best results might naturally be anticipated. The author lays down, as the second important rule in all cases of shock by lightning, that, so soon as a vein can be got to yield blood, the lungs should be gently and steadily charged and emptied of air by the action of a double-acting bellows.

Electrical Excitation.—Paradoxical as it may seem, it is nevertheless true that electrical excitation has been proposed as a means of recovery from electrical and lightning shock. The practice of electrical excitation as a remedy for shock from lightning or electrical discharge, proposed by Mr. Kite, a writer of no mean pretensions in the last century, Dr. Richardson discountenances.

ART. 133.—*On the Water-glass Bandage.*

By Dr. FLAMM.

(*Wurtemb. Corr. Bl.* xxxix. 5; *Schmidt's Jahrbücher*, No. 7.)

Dr. Flamm has used the above-mentioned bandage in twelve cases. He applies it in the following manner:—After reposition of the fracture the limb, with the exception of the fingers or toes, is enveloped in a flannel bandage, the various projections at the same time being covered by lint or wadding. He then commences to apply round the limb a moistened linen roller, the first few turns of which are made without the application of the water-glass, in order merely to protect the flannel bandage. The water-glass is afterwards applied to the inner side of the roller by means of a paint brush or with the hand. Finally, the bandage is smoothed by the hand, and a last coat of water-glass applied. For the following three or four days the limb is kept in wooden splints, as the water-glass bandage requires two or three days for complete hardening. Subsequently splints of pasteboard are used. In case of compound fracture an orifice can readily be made in the bandage.

The following are the supposed advantages of this apparatus:—

1. The cheapness of the material.
2. The facility of application even with inexperienced assistants.
3. In the firmness which it possesses, in common with other hardened bandages, all of which it surpasses in its lightness.

4. In the fact that the perspiration from the skin is not interfered with in spite of the fineness and impermeability of the bandage.

5. In the readiness with which it can be removed without the use of instruments.

This can be easily done by applying warm water over the bandage either with a sponge or from a watering-can. The apparatus is then loosened, and can thus be readily removed.

ART. 134.—*On the Seminal Fluid in Disease.**

By M. LIÉGEOIS.

(*Gazette Hebdomadaire*, No. 22.)

M. Liégeois has studied the influence of diseases upon the composition of the seminal fluid in the following order:—1. Acute or chronic diseases not connected with the generative apparatus. 2nd. Diseases of the testicle and epididymis. 3. Lesions of tissues bordering upon the testicle and epididymis. 4th. Diseases of the cord. 5th. Spermatorrhœa.

The following conclusions have been derived from the author's researches:—

1. Every healthy man, in adolescence, adult life, or old age, having no anomaly, malformation, and no traces of old affections of the organs of generation, has in his seminal fluid the material elements of fecundation.

2. Acute or chronic, organic or constitutional maladies, do not seem to influence in the adult the spermatic secretion to the point of inducing azoospermia; with the old man, on the contrary, this is often the consequence.

3. Gonorrhœal epididymitis nearly always arrests in a definite manner, if it be bilateral, the secretion of zoosperms, and becomes thus a cause of sterility. When the affection is unilateral it provokes sympathetically a diminution in the quantity of spermatozooids, furnished by the healthy testicle, and thus seriously influences the fecundating properties of the seminal fluid. Bilateral or unilateral epididymitis of a non-specific character, has by no means the same degree of gravity.

4. Affections which attack the parenchyma of the testicle are always serious with regard to sterility. Infecundity consecutive to double syphilitic orchitis may disappear after an appropriate treatment.

5. Peritesticular or perideferential lesions do not seem to have any marked influence upon the secretion and excretion of the spermatic fluid, with the exception of varicocele, which, when it has arrived at a certain stage, induces testicular atrophy.

6. Spermatorrhœa may, although exceptionally, bring on sterility in some subjects.

* Communicated to the Société Impériale de Chirurgie.

ART. 135.—*On the Theory of Suppuration, and the Use of Carbolic Acid Dressings.**

By EBEN. WATSON, M.D.

(*Glasgow Medical Journal*, November.)

After adverting to the older theories of the formation of pus, Dr. Watson dwelt more at length on the septic theory, according to which suppuration is considered as a kind of fermentation promoted by the growth of living animal and vegetable matters floating in the air; and he referred especially to Dr. Lemaire's views about the production of pus by the action of the air causing fermentation. Dr. Watson contended that the presence of germs in the air is very doubtful—that he had not found vibriones in pus—that the presence of those germs was not necessary to its existence or formation, and that the putrefaction was caused by the oxygen of the air combining with tissues either deprived of life, or in which the vitality is very small. He next proceeded to explain what he believed to be the rationale of the use of carbolic acid dressing. Its action (according to Dr. Watson) is mainly attributable to two effects, which all antiseptic substances produce, viz. :—First, it coagulates albumen, and thus renders the surface to which it is applied firmer, and enables it to resist the action of the air. Second, it keeps in the fluid discharges, and since the carbolic acid is volatile, and contains a large percentage of carbon, it feeds the oxygen of the air, and saves the carbon of the tissues.

ART. 136.—*Contributions to the Study of the Cicatrization of Wounds.*

By Dr. GIUSEPPE RUGGI.

(*Bulletino delle Scienze Mediche; Gazette Médicale de Paris*, No. 34.)

I.—*On obliteration of the wound in operations for hernia.* The author commences with the following proposition: The obliteration of the wound after an operation for strangulated hernia may be attempted by two modes, that is to say, by first and by second intention; but union of the wound by first intention (in operations for strangulated hernia), which is constantly practised, and recommended in all cases by many surgeons, ought not to be practised, according to Dr. Ruggi, except under well-determined circumstances. The following are these circumstances :—1st, when the hernia, of recent date, exists in a young subject, and includes both intestine and epiploon; 2nd, when the strangulation of the viscera is caused by the external inguinal ring in such a manner that incision of the skin, of the cellular tissue, and of the superficial aponeuroses is sufficient to remove the obstacle; 3rd, when the wound is regular; 4th, finally when the hernia is simple, and when the condition of the incised or exposed parts is normal. In all

* Abstract of a paper read at a meeting of the Glasgow Medical and Chirurgical Society.

other cases than these four, one ought to have recourse to union by second intention.

Dr. Ruggi then considers the mode of obliteration of the wound in union by second intention. In one case of hernia in which he operated on a young woman who died three days afterwards, he was enabled to study with care the relations between the plug of charpie introduced into the wound, and the portion of intestine previously protruded from the abdomen. Removing carefully the whole of the anterior wall of the abdomen, he recognised the position of the plug by a kind of rounded tumour, which corresponded to the internal orifice of the wound. A layer of fibrin, thick and tolerably resistant, surrounded like a capsule the extremity of the plug, and separated it from the viscera with which it had found itself in contact. The filaments of this plug adhered to the internal surface of this newly-formed capsule, so that in drawing upon the plug it was ruptured at several places. On removing the plug it was found that two loops of intestines, and also a small portion of the parietal peritoneum, contributed as well to the formation of the capsule.

With the aid of this anatomical fact, Dr. Ruggi states that he is able to explain the manner in which nature proceeds in the reparation of the wound in hernia. The plug introduced into the incision, beyond preventing the return of the intestines, acts as an irritant body, which excites an inflammatory process indispensable for healing. This inflammatory process, in its turn, giving rise to fibrinous exudations, serves to retain the intestines within the abdominal cavity, and to prevent the plug of charpie from being moved.

Dr. Ruggi derives from this fact the practical deduction that it would be imprudent for the surgeon when he experiences some resistance in the movements of the plug of charpie to attempt to remove this. Rupture of the fibrinous adhesions which complete the capsule of the plug might open up a passage to pus, and thus give rise to extensive inflammatory action, and probably to fatal peritonitis. Moreover, laceration of the newly-formed adhesions might possibly cause a fresh communication between the external air and the abdominal cavity, and the communication then made for a second time, might be much more serious in consequence of the disposition to inflammation already established by the fact of the irritant action of the plug. It results then that the surgeon should use the greatest precautions in changing the plugs of charpie, and in practising the other manœuvres performed in the early dressings.

Dr. Ruggi, from want of experience, does not declare with certainty concerning the ulterior transformation which the capsule may undergo. In the case in question the portions of intestine and of parietal peritoneum which adhered to the plug presented a deep red tint and a very rough surface, from which would probably arise the numerous granulations, which in a similar manner to those which spring from the walls of the wound, serve to bring about its complete obliteration. The fibrine which completes the capsule probably becomes organized, and Dr. Ruggi is inclined to believe that when the present enthusiasm for the cellular theory has once been cooled, an organizing force will be recognised in this product. Finally the portions of viscera which have taken part in

this process of natural therapeutics, remain for a long time adherent to the corresponding point at the internal extremity of the wound, probably even up to the moment when scarcely a trace of cicatrix remains.

II. *The mode of re-establishment of osseous extremities after amputation.*

The following are the conclusions formulated by Dr. Ruggi:—

1. The vegetations which serve to cover over the ends of bones after amputations, when reunion takes place with the greatest regularity, take their rise in the soft parts, in the periosteum, in the cortical substance of the cone, and in the medulla.

2. The vegetations of the periosteum are developed through a change in the natural process which governs in the physiological condition, the cellular proliferation of the same tissue (ossification).

3. The vegetations which take their origin in the cortical substance arise from the connective tissue of the Haversian canals.

4. The granulations which spring from the medulla are developed after the cells of the medulla have undergone progressive transformation.

5. The most considerable granulations spring from the peripheral part of the bone.

6. Necroses of the extremities of bones which have undergone amputation and mortification of the soft parts are the processes which most generally retard the cicatrization of amputation wounds.

7. Sequestra retard the course of cicatrization either by preventing the development of the granulations of the cortical substance or by their exciting inflammatory processes and prolonged suppuration.

8. The necrosis of the bone may vary in degree from a simple death of some few elements, from the action of the saw, to the formation of considerable sequestra.

9. Sequestra may form both when the bones are superficial and project in the stump, and when they are found enclosed in the soft parts.

10. These sequestra may be developed in consequence of a faulty afflux of blood due to the resection and to the obliteration of a series of nutritive vessels.

11. Sometimes the sequestra are eliminated in consequence of the suppuration which is excited by that condition; sometimes they remain confined at the extremity of the bones within a capsule of connective tissue; occasionally they may become absorbed.

III. *On wounds of nerves; the re-establishment of centripetal and centrifugal currents in the lesions of nerves; the rules which the surgeon should obey in the resection of nerves.*

1. When the continuity of a nerve has been broken through a very extensive wound, the nerve is not re-established either by its anatomical or its physiological continuity.

2. The coarser anatomical signs of the solution of continuity of the nerve are represented by the club-shaped termination of the superior end; by the persistence in this part of the nerve of all the physical characters of its normal condition, by atrophy of the inferior extremity, and by the absence of a swelling, or of tissue of any thickness, between the two extremities of the nerve.

3. The muscles to which the nerve is distributed become inactive, and

then atrophy, without chance of a return to their normal condition, unless the function of the nerve be re-established in time, or by some other path.

4. Anastomoses between the large nerve trunks exist, but are very rare. They may restore to a part, but only partially, both sensation and movement.

5. Anastomoses between the sensory nerves of various regions are frequently met with, especially on the cutaneous surface, where this variety is by preference distributed. These anastomoses re-establish the functions of the nerve in but an imperfect manner.

6. The superior extremity of the nerve remains in a state of atrophy as far as the first collateral branch or the first anastomosis with some adjacent nerve. Beyond the anastomoses the nerve acquires all the character of the normal condition, and performs its functions in such a manner that the connexion between the two nerves increases in dimensions.

7. The communications already existing between the nerves are those which are developed: fresh communications are not created.

8. The anastomotic connexions existing between the sensory nerves of different regions of the body are demonstrated by anatomical facts, by chemical observations, and by facts of pathological anatomy.

9. The direct anastomoses of the median nerve, that is to say, the nerve branches which proceed from the superior to the inferior extremity, may re-establish the normal functions of the injured nerve.

10. The reproduction of nerve substance is the course which nature most constantly takes to re-establish the nervous connexion between the periphery and the centre, and *vice versâ*.

11. The superior extremity seems to be that at which there exists the greatest creative activity, since, when isolated it is capable of forming a ganglion, a process which is not observed in the lower stump.

12. The presence of the two ends of the nerve seems to be an indispensable condition for the formation of the nervous substance.

13. The reproduction of the nerve substance depends upon the distance at which the two ends are placed from each other, upon the size of these ends, upon their direction, and upon the anatomical condition of the surrounding parts.

ART. 137.—*Albumen in the Urine, sometimes in Conjunction with the Colouring Matter of the Blood, as a Consequence of Surgical Diseases and Operations.*

By HENRY LEE, F.R.C.S., Surgeon, St. George's Hospital.

(*Lancet*, August 21.)

The author states that, during the years 1837-8, he collected together "several cases which occurred in St. George's Hospital, in which the urine was albuminous, but in which there was reason to believe that there was no disease of the kidneys. In most of these cases the presence of albumen was accounted for by the ascertained disease of the

bladder or of the prostate gland. This, however, was not invariably the case.

"Quite recently two cases have come under my care which have appeared to me to demonstrate that, when the blood is contaminated in consequence of accident or disease, albuminous water may be the result, without any organic disease of the kidney. The albumen in such cases, together with the colouring matter of the blood, may escape in very considerable quantities.

"Independently of the cases which have fallen under my own care, I have known of others in which, after a surgical operation or disease, the urine has become albuminous, and sometimes has remained so for a very considerable period. I have also been informed of two cases in which the urine at the same time became very dark-coloured, and was supposed to contain blood. The cases which I have given, although few in number, are, I think, sufficient to show that albumen in large quantities may be present in the urine as a secondary affection dependent upon disease in some distant part. Such an affection must be carefully distinguished from any local disease capable of producing albumen in the ureters, bladder, or urethra. In both classes of cases the albumen may be produced independent of any organic disease of the kidneys, and in both it may be mixed with the colouring matter of the blood. From the cases which have come under my notice, I am inclined to believe that in the first class the colouring matter of the blood is found independent of any blood-corpuscles; and that in the second the colour depends upon the blood-globules themselves. All the cases which I have known in which the peculiar colour of the urine, to which I have drawn attention, has accompanied the secretion of albumen as a secondary affection (independent of any disease of the kidney, and independent of any affection in the urinary channels themselves), have been instances in which there was evidence, more or less distinct, of coagula having formed in some part of the vascular system. These coagula have been disintegrated and removed. The colouring matter of the blood has disappeared with the other portions of the coagula; and when we find this same colouring matter reappearing in a disintegrated form in the secretion of the kidneys, we are justified, I think, in concluding that the matter so eliminated formed part of the coagula which had been disintegrated and removed in the course of the circulation."

ART. 138.—*Three Cases of Cancer Treated by Gastric Juice.*

By Drs. TANSINI and PAGELLO.

(*Gazetta Med., Lombard. ; Gazette Hebdomadaire*, No. 40.)

CASE I.—*Tumour of the Temporal Region.—Cure.*—(Dr. Tansini.)—The patient was a woman, fifty-two years of age, of a cachectic aspect, who was admitted into the hospital of Lodi on January 13, 1869. A tumour had developed itself in the left frontal region since 1864; at first hard and indolent, it became ulcerated, and bled at the least touch. It was very painful.

At the time of treatment the growth was of the size of a turkey's egg, and occupied the temporal region. It was ulcerated, and discharged a sanious fluid, possessing a cancerous odour. It bled frequently. Below the ear were two degenerated glands, each hard, and of the size of a bean. From the immobility of the tumour it was presumed that the bone was involved ;—an operation was renounced after consultation.

Professor Lussana suggested the employment of gastric juice from a dog as a means for destroying the tumour.

On February 12, the first application was made of gastric juice over the whole ulcerated surface by means of a brush. The patient complained of slight heat, and hæmorrhage necessitated application of charpie.

On the following day, after removing the dressings, no change was observed, save a greyish tint—the surface at places was soft or dry.

On the 14th and 16th fresh applications of the gastric juice were made ; the fluid flowed over the surrounding parts, in spite of precautions taken to prevent this.

On the 17th there was fever, and erysipelas spread over the left side of the face.

On the 21st the tumour was found reduced by one half, the ganglion below the ear had disappeared, and that over the maxilla had suppurated.

On the 22nd and 23rd the erysipelas followed its course, accompanied by symptoms of gastricism.

The tumour diminished daily, and on March 1st was reduced to level wound, covered by rosy granulations, without any trace of the enlarged glands. Cicatrization was regulated by the application of nitrate of silver. On March 19th the patient left the hospital, quite freed from the tumour, and improved in her general condition.

CASE II.—*Tumour of the Temporal Region.*—*Cure.*—(Dr. Pagello.)—In the month of March, 1869, a young woman, nineteen years of age, was admitted into the hospital to be treated for a tumour of the size of a hen's egg, which occupied the whole of the right occipital region, and had slowly increased in size during the preceding seven or eight months. For a short time a seton had been applied across the tumour, which then became painful, and developed itself with greater rapidity. At the time of the patient's admission, the wounds caused by the seton had healed, and on the surface of the tumour—in the very centre—was a brownish patch. The skin corresponding to this brown patch was adherent, but at other points was moveable ; the tumour *en masse* presented a mobility at the base, and also a feeble consistence. In the belief that the growth was a cyst, Dr. Pagello made over the tumour two incisions, which excluded the brown stain ; but after the incisions had been made it was discovered that the tumour contained a central deposit of polypiform material, which formed a kind of fungous and irregular mass. As much as possible of this mass, which adhered to the pericranium, was removed. Two days later the fungosities had reformed in great numbers upon the exposed surface, and Dr. Pagello, and also his two colleagues, did not doubt the cancro-fungous and malign nature of the tumour.

Cauterizations were made with nitrate of silver, but the development of the fungosities continued with activity.

March 24th—Dr. Lussana recommended the application of gastric juice to the wound. This was done, and in twenty-four hours the fungosities had been dissolved, and the inner part of the tumour had been converted into a viscous fluid, which was removed. The base was afterwards covered by granulations, and the irregularities of the edges had disappeared.

Dr. Pagello then conceived the idea of making a comparative experiment—that is to say, of treating one part of the wound by gastric juice, and the other by perchloride of iron; on removing the dressing it was found that the whole of that part of the wound which had been dressed with gastric juice was depressed, and that its fungosities were diminished in size; whilst in the part treated by perchloride of iron the fungosities were much elevated and sanguinolent. From that time the gastric juice was used exclusively, pressure being kept up, and the granulations occasionally touched with nitrate of silver—on April 4th—till the vegetations were destroyed, and the cavity was reduced to the size of a sparrow's egg. Adhesions and cicatrization were completed by April 3rd, and the patient went out cured.

CASE III.—*Cancer of the Parotid Gland.—Death.*—The patient was a young woman, twenty years of age. She was suffering from an enormous cancer of the parotid, which extended from the temple, the pinna of the ear, and the mastoid apophysis, as far as the clavicle. There was ulceration and increasing marasmus. For five days—the 24th to the 28th of March—applications of gastric juice were made; in the centre of the tumour a large excavation was formed. From this was removed daily about an ounce of glutinous and filamentous material. About one-fourth of the tumour had been destroyed, but the cachectic condition became more pronounced every day, and the patient died on April 23rd in a state of marasmus.

ART. 139.—*M. Ricord on Vaccinal Syphilis.*

The following is the substance of some remarks made by M. Ricord at the Academy of Medicine, during a discussion on vaccine virus:—

M. Ricord does not believe in the degeneration of vaccine; he thinks that the different results which have been obtained depend entirely on the conditions of the soil or organism, and on the quality of the seed or virus.

As to the charge made against vaccine of communicating syphilis, M. Ricord believes that there cannot be the slightest doubt raised as to the possibility of the fact, although the frequency has been singularly exaggerated. Vaccinal syphilis is excessively rare.

M. Ricord thinks, with M. Guérin, that a great number of cases of pretended vaccinal syphilis are very doubtful; these are particularly the benign cases, which would get well with little or no treatment. The benignity of syphilis inoculated by vaccine has been alleged; but this idea is essentially erroneous. M. Ricord differs, however, from M. Guérin, when the latter denies the fact of vaccinal syphilis, and declares the diagnosis of syphilis to be vague and uncertain. M. Ricord cannot but recognise as indubitable signs of indurated chancre, axillary adenopathy, and then the whole series of consecutive phenomena.

How is vaccinal syphilis produced? Is there a combination of the two viri—the vaccinal and the syphilitic? or, rather, are they developed simultaneously? With regard to this, observation is still deficient; but a very important point is the communication of syphilis by vaccine matter mixed with the blood of a syphilitic subject. Here, according to M. Ricord, is a serious question of responsibility for the vaccinator; for it is impossible to avoid a mixing of the vaccine with blood, since microscopical examination shows that the fluid effused into a vaccinal pustule always contains as much of blood-corpuscles as of vaccine.

To resume, it is true that human vaccine may transmit syphilis; but vaccinal syphilis is extremely rare; it is very difficult to produce, even when it is attempted purposely. On the other hand, has not the cowpox, like the human vaccine, also its blemish? Are there not contagious diseases which can be transmitted from animals to man by vaccination? This is what will be learnt from observation. "We possess," concludes M. Ricord, "two good sources of vaccine, which are equally powerful, equally efficacious: it is necessary to cultivate both with the same care and the same solicitude."

ART. 140.—*On the Treatment of Syphilis by the Subcutaneous Injection of Corrosive Sublimate.*

By Dr. A. MERSCHEIM.

(*Inaug. Diss. Bonn*, 1868; *Schmidt's Jahrbücher*, No. 4, 1869.)

Dr. Merscheim, of Bonn, has had under his notice eighteen syphilitic patients, who were treated by subcutaneous injections of corrosive sublimate. The patients were injected twice daily. The syringe held a solution of two milligrammes of the mercurial salt; at first one-half, afterwards three-fourths, and eventually the whole of the contents of the syringe were injected. The largest dose of corrosive sublimate which was injected amounted to one centigramme.

Under this plan of treatment the syphilides and condylomata disappeared rapidly. The average duration of the treatment was thirty days. It is stated as an unfavourable point in the treatment, that it was often necessary to suspend the injections, in consequence of head symptoms, and other manifestations of mercurial action; by this the duration of the cure was prolonged. Pain, frequently considerable, formation of abscesses, and increasing sensibility of the patient during the treatment, were also considered as especially unfavourable results of the process. Mercurial symptoms did not come on so soon as with other methods of treatment by this agent. Rapid cures were not attempted, for fear of too many points of phlegmonous inflammation. Dr. Merscheim bears witness to the security and precision of the method. He does not hold with Lewin that there is no necessity for the patient to keep his bed or his room. On account of the numerous abscesses and of the frequently severe pains, the patient is sometimes obliged to lie in bed, or at least keep himself in his chamber. Dr. Merscheim, although he acknowledges the advantages of the injection method with regard to the smallness of the dose and non-interference with the digestive organs, does not practise it on all patients. He believes that most persons would rather undergo a treatment which lasts for a somewhat longer time, but is painless, than one which, though shorter in duration, is necessarily attended with great pain.

ART. 141.—*On the Application of the Hypodermic Method to the Treatment of Syphilis by Mercurial Preparations.*

By Dr. F. BRICHETEAU.

(*Bulletin Général de Thérapeutique*, April 15.)

The first attempts made to treat syphilis by subcutaneous injections were made by Scarenzio, of Pavia, who employed calomel suspended in water, glycerine, or some solution of gum. The memoir published by Scarenzio on this subject describes eight cases of syphilis successfully treated, with one exception; but in all the cases the patients had abscesses in the spot where the injection was made. Dr. Ambrosoli, of Milan, following the treatment proposed by Scarenzio, obtained fourteen cures out of sixteen patients. Berkeley Hill, in England, employed injections of corrosive sublimate in twelve persons attacked with constitutional syphilis, and in four of them a very small amount of the drug produced mercurialism. The quantity of salt employed each time was about a milligramme (1 one-thousandth of a gramme, about fifteen grains), and where this quantity was exceeded the patients suffered from colic and diarrhoea, and the place of the injection remained painful for some time. Dr. Casati knew of a case where eight centigrammes of calomel injected under the skin of the arm produced a phlegmonous abscess, and a gangrenous stomatitis was superadded, which for some days put the patient in danger of his life. In Germany, George Lewin, of Berlin, made a number of experiments on this subject, and published a voluminous treatise founded on seven hundred observations. His solution consisted of corrosive sublimate in distilled water. Lewin's experience was strongly in favour of the hypodermic use of mercury in syphilis, and he considered the plan to be rapid in its results, as well as safe and effectual. In France this treatment has been but little employed, and the only physician who is known to have tried it is M. Aimé Martin, who published two cases, which, however, are very conclusive. He recommends a solution of four centigrammes of red iodide of mercury in a gramme (about fifteen grains) of distilled water. In order to render the red iodide soluble, it is mixed with iodide of potassium. This preparation is not irritating, and it presents besides the advantage of containing at once, in nearly equal proportions, the mercury and the iodide of potassium, the two great remedies for syphilis. The two cases recorded are very remarkable examples of the beneficial effects of the treatment. M. Aimé Martin, without abandoning the internal treatment of mercury or mercurial frictions, thinks that the hypodermic method is calculated to render some service in the treatment of a disease so obstinate as syphilis. M. Liégeois, surgeon of the Hôpital du Midi, is continuing some observations, which he has instituted during the last two years, on the hypodermic use of mercury in syphilis, and M. Bricheteau considers that his results are still more satisfactory than those of Lewin, and that his method is free from inconvenience. But M. Bricheteau considers that all the preparations of mercury hitherto recommended are objectionable, owing to their irritating nature; and, after a consultation with a pharmaceutical chemist of experience, he has

fixed upon the double iodide of mercury and sodium as the least injurious to the tissues. His formula consists of $1\frac{1}{2}$ gramme of the double iodide dissolved in 100 grammes of distilled water. Each gramme of this solution, or 20 drops, contains 1 centigramme, or 10 milligrammes. It is recommended to begin with ten drops, or 5 milligrammes; then to increase the dose by 10 drops, and an injection to be made every second day.

ART. 142.—*On the Results obtained from the Subcutaneous Injection of Small Doses of Corrosive Sublimate in the Treatment of Syphilis.*

By M. LIÉGEOIS.

(*Gazette Hebdomadaire*, No. 28.)

The following paper was communicated to the “*Société Impériale de Chirurgie*.”

“I propose to call the attention of the Society to the services that are to be hoped for from the employment of the hypodermic method applied to the study of syphilis. In the attempts hitherto made with this plan of treating syphilis, the mercurial salts only have been employed. In 1864, Scarenzio made use of calomel in the dose of 0·20 gramme to one gramme of distilled water. Three or four injections sufficed for the cure of the syphilis. Scarenzio’s method was practised in Italy by Ambrosoli, Ricordi, and Monteforte; and in Belgium by Van Mons. In 1866, Berkeley Hill made use of corrosive sublimate for injection, in doses of one centigramme. About the same time, Lewin, of Berlin, employed injections of corrosive sublimate in doses of 0·006 gramme in females, and of ·013 gramme in the male. Lewin’s method was practically studied by Hebra, Viederhoffer, Boedse, Klemm, and others. In France it has been practised by M. Hardy, but without great success. In 1868, M. A. Martin proposed to inject the double iodide of mercury and potassium; finally, in 1869, M. Bricheateau directed attention to the iodide of mercury and sodium. My first attempts date from October, 1867, and were suggested to me by Lewin himself.

“Eighteen female patients of the *Lourcine*, affected with severe secondary symptoms, were treated by injections of corrosive sublimate, equal in strength to those given by Lewin (·006 gramme to one gramme of water daily). No tonic regimen was prescribed, nor was any local application made; all my patients were cured of their symptoms in the space of from fifteen to twenty days. But the frequency of salivation, and the occurrence of abscesses and sloughs at the seat of puncture, led me to renounce Lewin’s method.

“On January, 15, 1868, I recommenced my researches at the *Hôpital du Midi*. After several trials, I made out that a solution of ·004 gramme of corrosive sublimate in 2 grammes of water, when injected in two portions, is perfectly harmless. I employed this dose in my subsequent researches. From January 15 to December 10, I injected 196 subjects, taken from those most severely affected with syphilis. No local treatment was put in force. A few only of these patients were

subjected at the same time to tonics. Patients affected with slight symptoms were treated by pills of the proto-iodide of mercury, by Von Swieten's liquid, or by tonics, and with these also no local treatment was practised. The following is the formula of my injection:—

Distilled water	90 grammes.
Corrosive sublimate0·20 gramme.
Hydrochlorate of morphia0·10 gramme.

Every morning two injections were made in succession into the cellular tissue of the back, one on the right side, the other on the left. The operation was generally accompanied by a slightly painful sensation; but no inflammatory reaction took place around the seat of puncture. In two instances only, where the injection had been forced into the skin tissue itself, did a slight slough form. Of the 196 patients, only 4 were slightly salivated. Five or six days after the commencement of the treatment, the general condition of the patient began to improve, and the mucous patches became less distinct; the dry forms of the secondary manifestations improved less rapidly. At this period of the treatment the symptoms rarely increased in intensity, still more rarely did symptoms of a fresh form appear. The *embonpoint* of the patient in the majority of cases was considerably increased. Of the patients thus treated by injections of corrosive sublimate, 193 were affected with secondary, and 3 with tertiary symptoms. Of the 196 patients, 127 were discharged as 'cured,' and 69 as 'improved.' With those classed as cured, the mean number of injections was 68, with those who were improved the mean number was 50. The number of relapses among the cases of cure were 12—9·45 per cent.; among the cases of relief it was 14—20·30 per cent. Under the head of relieved I included every subject who presented no trace of the secondary symptoms presented at the commencement of treatment. The majority of these bordered on cure.

The hypodermic method enables one to know exactly the dose of the mercurial salt which penetrates into the system. From my statistics, it results that the patients who recovered the most rapidly under injections, were those who had undergone a mercurial treatment at a period more or less remote. These patients require, on an average, sixty injections; that is to say, a treatment of thirty days. Next come the patients who were put on iron on their entrance into the hospital; and then the patients treated simultaneously by tonics and injections; for the latter, about sixty injections on the average, were required. Finally, patients treated by injections of corrosive sublimate alone, require for their recovery about thirty-seven days of treatment. With regard to the duration of the treatment, the disadvantage is therefore with injections of corrosive sublimate when employed on individuals who have not been treated previously, and who have not undergone a tonic regimen.

Relapses, however, are the more likely to occur, as the treatment by injections has been the less prolonged. Among the patients who had already undergone a mercurial treatment, there were 6 per cent. of relapses. Among patients who had been subjected at first to a mercurial treatment, and a few days afterwards to injections, the relapses

amounted to 37 per cent. Among those treated simultaneously by injections and tonics there were 12·50 per cent. Among the patients treated only by injections the proportion was 7·70 per cent. of relapses.

The various conditions which follow were studied in the patients subjected exclusively to injections. From fifteen to fourteen years, the younger the subject the greater the number of injections required, but the less the exposure to relapse. The symptom, which is most readily cured is roseola; next come mucous patches, and then the papular syphilides. The necessary number of injections is the more considerable as the commencement of the secondary symptoms is more remote. The relapses are always in inverse relation to the number of injections. The longer the incubation of the chancre the greater is the number of injections required. All these data derived from statistics show that syphilis is more resistant to treatment in proportion as the affection is of long duration. Preventive injections may postpone the appearance of secondary symptoms and diminish their intensity.

The advantages of the hypodermic method seem to me to be unquestionable:—1st, it can readily be applied; 2nd, it guards against local affections; 3rd, it enables one to avoid with much certainty salivation; 4th, its efficacy is very great against secondary manifestations; 5th, it does not disturb the important functions of the economy; 6th, it seems to expose the patient less to relapses than other methods of treatment; 7th, the relapses are generally very mild.

No treatment, whether tonic or mercurial, acts so efficaciously as the hypodermic injection of corrosive sublimate, in small doses, upon the nutritive condition of syphilitic subjects. The following are the average weights of sets of patients treated at the hospital:—

A non-syphilitic subject placed on the ordinary diet of the hospital gains 542 grammes. (Number of patients weighed, 16.)

A syphilitic subject placed on the ordinary diet of the hospital loses 1100 grammes. (Number of subjects weighed, 16.)

A syphilitic subject treated by tonics alone gains 689 grammes. (Number of subjects weighed, 9.)

A subject treated by injections of corrosive sublimate alone gains 1155 grammes. (Number of subjects weighed, 74.)

A subject treated by injections of corrosive sublimate and tonics gains 2037 grammes. (Number of subjects weighed, 13.)

A subject treated by Von Swieten's liquid gains 640 grammes. (Number of subjects weighed, 9.)

A subject treated by proto-iodide of mercury loses 362 grammes. (Number of subjects weighed, 17.)

Some authors have described the restorative influence of mercury on syphilitic subjects; but these suppose that the mercury strengthens the forces of the organism only by destroying the syphilitic virus which is the cause of the nutritive and functional disorders. For the purpose of deciding this question I have made injections of corrosive sublimate on man and on healthy animals. Five subjects affected with soft chancres gained in weight, on an average, 3662 grammes. Two fully-developed rabbits gained, the one 650 grammes, and the other 1000 grammes, from February 17 to the 9th of April. My experi-

ments have proved that mercury, in small doses, is a reconstituent remedy; in stronger doses it is an alterative, and, in still greater quantity, a poisonous agent. If mercury, in small doses, acts as a reconstituent on healthy subjects, it is certain that among syphilitic individuals the activity of the nutritive processes is not a consequence of the cure of syphilis, but rather the result of a special action of the mercurial salt upon nutrition.

ART. 143.—*On the Nature of Syphilitic Infection and the Inoculability of the Syphilitic Virus.*

By Prof. W. BOECK.

(*Archiv für Dermatologie und Syphilis*, 1, 2; *Schmidt's Jahrbücher*, No. 7.)

The syphilitic matter, when kept in the fluid state for six or eight days is generally no longer inoculable, and when kept dry, loses its infecting properties still earlier. Prof. Boeck holds the opinion that it is no longer inoculable after it has been kept for a few hours. Hence we must question the accuracy of reports concerning the transmission of the disease by the instruments used in catheterization of the Eustachian tube. Boeck doubts also many of the reports of the transmission of syphilis by means of lancets, although he holds that under certain conditions this is possible. A very close examination of certain cases of syphilis will often enable the surgeon to explain, in a simple manner, what are supposed to be obscure modes of transmission.

The two following cases afford a proof how difficult it is at times to make out the manner of transmission of the syphilitic disease:—

M. Ol., twenty-five years of age, unmarried, was, with her child, which was born on November 16, 1859, admitted into the hospital in January, 1866. Both were affected with constitutional syphilis. The mother had discovered her own affection since the middle of December. On January 16, 1860, Professor Boeck was consulted by the wife of a ship captain on account of her child, aged three months. This woman, as she had not sufficient milk, had put out her child to nurse for about six weeks to M. Ol. During the last three weeks this girl had complained of an ulcer on the right nipple; and as the mother had learnt that the nurse was syphilitic, she, on the advice of her medical attendant, examined daily with great care the mouth of her infant. On the day she consulted Professor Boeck a few spots were observed on the infant's tongue. Boeck found on the left side of the apex of the tongue two round superficial ulcers, or rather denudations of epithelium, consequent on the rupture of vesicles. There was no exudation, no swelling, no redness of the surrounding parts. The mother was at once forbidden to suckle her infant, and was told to present it again as soon as the ulcers had undergone change.

On February 5, the infant was again brought to Professor Boeck. At the spot where the ulcers had presented themselves was now an elevation about five millimetres in length and three millimetres in breadth, of an irregular form, and with a yellowish surface. The child in all other respects was healthy, and presented no other syphilitic symptoms. The nipples of the mother were in a normal condition. On February 19, the lingual ulcer had increased in size, but was more shallow, and no longer covered by yellow exudation; the base was red, and the adjacent parts slightly inflamed.

Over the thorax and abdomen was a roseolous eruption of one day's duration. On February 26 the ulcer commenced to cicatrize; the roseola on the trunk was more developed, and in the neighbourhood of the anus was found a small mucous tubercle. On March 4, the lingual ulcer was almost healed, the small mucous tubercle near the anus was somewhat larger, and on the extremities existed a scanty papular exanthem. Some weeks' constitutional sickness appeared in the mother. Both mother and child were cured by syphilization, and remained well.

Prof. Boeck attaches importance to the fact that in this case, at the time when the constitutional symptoms were so far advanced that the mother, who at an earlier stage had recognised nothing abnormal, had her attention now directed to the symptoms, the primary lesion was obscured to such a degree that it could no longer be discovered. From the day on which the child was suckled for the last time by the nurse to the day of the development of the vesicles, there was an interval of fourteen days, and the roseola made its appearance thirty-two days later. It is not known, indeed, at what time the ulcer appeared on the nipple of M. Ol.

A. E., aged twenty-two years, a married woman, was admitted with her son on September 12, 1866. The mother was affected with constitutional syphilis, and presented an exanthem, an affection of the aural glands, &c., and likewise an excoriation on the left nipple. Her child, then in a healthy state, was taken from the breast and closely examined every day. On Feb. 28, a very small ulcer presented itself on the tongue near the frenum. This ulcer varied in size from time to time. On October 6 it was covered by a yellow deposit, and two days later was healed. On October 3 there was a slight epithelial abrasion on the upper surface of the tongue near its apex; this, however, rapidly healed. The submaxillary glands were but slightly swollen. On October 23 some roseolous spots were observed on the thorax; on November 2 these had developed themselves to such an extent that the diagnosis was certain. Syphilization was now commenced, through which treatment both mother and child recovered.

In this case the ulcer showed itself sixteen days after the child had been last suckled by the mother; twenty-five days later the roseola first made its appearance. At this latter date no trace of the primary ulcer could any longer be discovered. Boeck states that he has frequently had under notice young children affected with constitutional syphilis, in whom he was unable to discover any primary affection because he had not previously had any opportunity of recognising the rapidly disappearing local lesion.

In the second part of his contribution, Professor Boeck produces some interesting cases to support the theory of unity. He asks why it is that dualists in their inoculations on syphilitic subjects produce negative results, whilst the results of unicists, on the other hand, are positive. The answer to this question he finds in the difference of the mode in which the inoculations are made. The dualists generally make but one inoculation, this failing, they conclude syphilis to be non-inoculable. In some circumstances, however, do repeated inoculations indicate an auto-inoculability of the syphilitic virus. The following case is adduced:—

D. C. G. was on March 18th received into the hospital. Through a phymotic prepuce could be felt close to the corona glandis a marked indu-

ration; from the preputial orifice there was a thin watery discharge, the inguinal glands were swollen, and here and there upon the trunk was scattered a papular exanthem. The patient was daily inoculated on the right side with the discharge from under the prepuce, and on the left side with pus from a foreign source. On June 8th a pustule was observed for the first time on the right side; from this inoculations were made with positive results on June 12th and 14th. As it was possible that the foreign material inoculated on the left side, which had produced several pustules, might also have produced the same results on the right side, matter from the preputial orifice was on June 14th inoculated on the right arm, and produced at this spot a positive result.

According to Bidentkap, the inoculated material often takes on the same subject, after it has been frequently inoculated, or when the indurated skin has been irritated. In M. Boeck's case, after inoculations had been made for twenty days without any result, a spontaneous irritation, namely, an inflammation, which was probably set up by the accumulation of pus under the prepuce, came on; this was attended with urinary disturbance, and then the pus could be inoculated upon the affected subject. That the patient had willingly transferred pus from another patient to his own ulcer (as is occasionally done in hospitals) is not at all probable, because the ulcer was closely confined by the phymotic foreskin.

G. H——, aged thirty-six, was treated at the hospital on March 2nd, 1868, for a chancre on the lower lip. The ulcer was at least one inch in diameter, the lip was very much swollen and protruded. There was marked swelling of the submaxillary and cervical glands. A roseolous eruption was scattered over the body.

An auto-inoculation from the lip gave a negative result. Treatment by syphilization was then commenced. The ulcer on the lip continued to suppurate. An inoculation on April 1st on the right arm gave for the first time a positive result. On April 6th, Boeck inoculated the left arm from a papule situated upon the right arm. And this was at once followed by a pustular formation, which on the following day dried up. Another inoculation was then made on the left arm from the same source on the opposite limb. This inoculation had results, and at the same time pustules were developed from the first inoculations upon the same arm. From this time the man was inoculated every third day from the well-developed pustules. On June 14th he was discharged as cured.

In explaining the circumstance that the secretion of the indurated chancre did not take on the first inoculation at the time of the man's admission into the hospital; whilst, on the other hand, two inoculations made two months later, were followed by positive results, Professor Boeck assumes that although the *materies morbi* was less powerful, the ordinary condition of body in consequence of the syphilis has been changed. The longer the body has been subjected to the syphilitic dyscrasia, the more quickly does the *materies morbi* act. The possible answer from the dualistic stand point that the matter in the pustules was nothing more than that of a soft chancre, and that the patient had carried matter from these pustules to the later and non-inoculable labial ulcers, cannot, Boeck holds, be accepted.

With this patient there occurred on March 30th, during the treatment by syphilization, an erythematous rash on the forehead, back of the neck, arms, and calves of the legs. This, Boeck states, is often observed during syphilization; it is generally seated at a distance from the inoculation point, and has no local dependence on the treatment.

P. A. T., twenty-two years of age, was admitted into the hospital on Feb. 23, 1867, with an indurated chancre on the corona glandis and swelling of the inguinal and cervical glands. As there was but little secretion from the ulcer, its surface was dressed with pulvis sabinæ, after which inoculations of the matter of the ulcer were made daily upon the left side of the patient. On March 23 no action could be observed at any of the inoculation spots. Two days later there was roseola. The patient was now treated by syphilization. On May 23 there was found on the left side, where the experimental inoculations had been made with matter from the primary ulcer, eight papular elevations of a brownish colour, and at one of these spots, a formation of scales. It could not be determined how long these papulæ had existed. On June 17 they had quite disappeared, and on July 11 the patient was discharged as cured.

In December, 1868, Dr. Bidentkap brought under the notice of the Medical Society a man aged forty-four years who had last had connexion six weeks before his admission into the hospital. On the day before his admission the patient had noticed for the first time small excoriations upon the glans and the inner surface of the foreskin. On admission there were found two small red spots stuffed with epithelium, which had extended from the corona glandis to the foreskin. There was no appreciable induration. There was an accumulation of yellowish pus between the glans and the foreskin. The inguinal glands on the left side were slightly swollen. The diagnosis wavered between balanitis and primary syphilitic symptoms. Inoculations were now made on both sides of the patient's chest, and the scanty secretion taken by the lancet from the excoriations, but these were apparently without result. The crusts at the spots of inoculation fell off and exposed but a small reddened patch. During this time the excoriations enlarged and contracted. On Oct. 27th, twenty-four days after admission, the sore had become very large and there was distinct induration; there was also a tendency to phagædena, the pus being thin and of a yellowish-grey colour, and the ulcer itself very painful. Inoculations at this time failed in every instance. On Nov. 2nd the ulcer ceased to spread, and presented fresh granulations, the pus was thick and yellow, and the induration considerable. As yet the experimental investigations had given but negative results; the small red patches, however, at this time, particularly those made at an early period, became more prominent. Inoculations were now made upon the arm of the patient with the thick yellow pus from the primary sore, and thereupon were developed by Nov. 4th tolerably large pustules, matter from which could be again inoculated with results both upon the patient himself and on another syphilitic individual. The inoculations resulted in well formed, characteristic deep chancrous ulcers, quite similar in appearance to those which came on after the inoculation of soft chancres. In the meanwhile a characteristic roseola had developed itself upon the back and abdomen, the inguinal glands had become much swollen, but the primary sore, in consequence of phymosis, could not be observed. Induration could be felt. At the same time the red spots resulting from the unsuccessful inoculations of the first three weeks were converted into prominent papular or tuberculous products of a bright red colour, each about the size of a small pea. The largest tubercle was found at the spot where the first inoculation had been attempted.

Professor Boeck lays stress upon the fact that in this patient the various sound results of the inoculation, the pustules and the tubercles, were developed at the same time. To the possible objection that the patient might have transmitted the secretion of a soft chancre to the primary sore, and that the artificial pustules might have been produced in this way, Professor Boeck would reply that the tubercular formations afforded a clear proof that the matter from the inoculated ulcer was auto-inoculable.

ART. 144.—*Clinical Notes on the Treatment of Syphilis.*

By JOHN KENT SPENDER, M.D. Lond., Surgeon to the Mineral Water Hospital, and to the Eastern Dispensary, Bath.

(*The Lancet*, June 19 and 26.)

The following are the therapeutic propositions which Dr. Spender has advanced:—

1st. For the secondary forms of syphilis give, in the most eligible form, iodide of potassium in moderate doses, with blue pill or some analogous preparation.

2nd. The double compound of iodide of potassium and bichloride of mercury may be necessary for treating syphilitic inflammation of deeper tissues.

3rd. The bichloride of mercury is valuable for removing the intermediary squamous syphilides. The green iodide of mercury is recommended by Mr. Squire. In doubtful cases, bichloride of mercury may be added to arsenic.

4th. The earlier tertiary phenomena of syphilis are relieved by the double compound of iodine and mercury just named; the later ones by large doses of iodide of potassium. Sometimes even cures may be effected. Tonics are generally useful subordinate agents.

5th. Infantile syphilis always requires mercury.

The author adds that in otherwise intractable cases the mercurial bath and the hypodermic method of introducing mercury into the system should be rendered available.

ART. 145.—*Cases Illustrating the Diagnosis of Syphilis.*

Under the care of Mr. MAUNDER.

(*The Lancet*, November 20.)

We note the following as useful illustrations of the caution necessary in dealing with suspicious sores and eruptions.

E. P——, aged seventeen, had been admitted into the London Hospital on the 3rd of September, 1869, with suspected syphilitic sore-throat. On examination on October 5th, she was found to have a pustular eruption sparingly scattered over the face, trunk, and extremities, associated with a chronic enlargement of the tonsils. Mr. Maunder suggested to the class that the eruption was not such as is usually met

with as a sequela of syphilis, but he had seen one similar, produced apparently by iodine. On inquiry, it was ascertained that the patient was taking the syrup of the iodide of iron. This medicine was omitted, and the tincture of steel substituted. By the 8th of October the pustules had dried up.

A. B——, aged twenty-five, was said to be the subject of an indurated chancre on the vulva. On examination by Mr. Maunder on October 5th, a large ulcer was found occupying the cleft between the nymphæ and their opposed surfaces, having somewhat thickened and undermined edges, and discharging freely. There was no glandular complication. The patient's voice was husky, and her throat scarred.

Mr. Maunder said that the evidence was in favour of the existing sore being of the tertiary rather than of either primary variety—hoarse voice and cicatrices on palate; large size of the sore; free discharge without inoculation of adjacent parts. Were it *indurated*, it would be associated with an adenopathy in one or both groins; were it a *soft* chancre, the discharge was so free that the adjacent parts could not have escaped inoculation. Iodide of potassium will quickly influence the character of the sore if it be tertiary.

On October 8th, the patient had taken five grains of iodide of potassium thrice daily, and the sore was healing rapidly.

These cases teach caution in making a diagnosis even in patients leading an irregular life. In the first case, neither the sore-throat nor the rash was due to syphilis. In the second instance, although the sore was situated on the genitals, it was not of either primary variety.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 146.—*On a Simple Method for the Radical Cure of Encysted Tumours of the Scalp.*

By Dr. VON KRAFFT-EBING.

(*Berliner klinische Wochenschrift*, vi. 2; *Schmidt's Jahrbücher*, No. 9.)

Even if it be allowed that extirpation by means of the knife is the only sure and rational method for the removal of sebaceous tumours, still there are some cases where the patients dread a cutting operation, and the tumours are small and cannot be shelled out without difficulty, and for the treatment of these some other method is desirable.

Dr. Von Krafft-Ebing recommends for this purpose the subcutaneous injection of tartar-emetie.

Into a sebaceous tumour of the size of a bean, and situated over the right side of the frontal brow of a young girl, a few drops were injected of a solution containing 0.65 gramme of tartar-emetie to 15 grammes of distilled water. The burning pain which immediately followed this operation disappeared in the course of half an hour. No nauseating action resulted. On the following day there was tenderness of the tumour on handling, and in about forty-four hours after the ope-

ration, the cyst with the whole of its contents was forced out by moderate pressure, whilst a few drops of pus exuded from the puncture. The wound healed rapidly.

The injected solution acted in a similar manner in several encysted tumours, varying from the size of a bean to that of a pigeon's egg. Expulsion of the growth constantly followed between the second and third day. The treatment had caused nausea or erysipelas. With large cysts Dr. Krafft-Ebing thinks it necessary to leave some of the solution in the wound formed by puncture, in order to set up more extended mortification of the skin, and thereby to facilitate the elimination of the cyst.

ART. 147.—*On Trephining of the Cranium for Traumatic Lesions of the Head.*

By Baron H. LARREY.

(*Mémoires de la Société de Chirurgie*, tom. vii. ; *Gazette Hebdomadaire*, No. 29.)

The following conclusions are given in M. Larrey's contribution :—

Trephining is indicated for traumatic lesions of the head under two fundamental conditions ; when, in the following cases, closely localized or circumscribed symptoms persist, and when other resources are powerless for remedying them.

1. In fractures of the vault of the cranium, either with perforation more or less deep, or with depression of the fragments, when the laceration of the dura mater or the lesion of the brain excites grave and continuous symptoms, unless attempts at reduction with other appropriate means than trephining be possible or efficacious.

2. In fractures complicated with the retention of foreign bodies or projectiles in the thickness of the cranium, or their penetration into the superficial layers of the brain ; when bad symptoms persist, and the retraction of the foreign body cannot be performed in any other way.

3. In various mechanical lesions of the head, complicated with persistent severe cerebral symptoms, such as contusion and compression of the brain, or again prolonged hemiplegia with effusion of blood or pus, presumably circumscribed ; provided that the local lesion be precise, and provided, above all, that the previous trial of active treatment has proved insufficient. M. Larrey insists very much upon this last consideration.

Trephining is contra-indicated, on the one hand, in lesions which are rapidly or certainly fatal, and, on the other, in all lesions which are presumably curable by other means.

1. When a foreign body after penetration into the cranium is lost in the deep seated parts of the brain, or has become inaccessible to instruments.

2. If blood or pus effused within the cranium, does not appear to form a distinct deposit in connexion with the aperture in the bone.

3. In every fracture, whatever its extent may be, which is com-

plicated neither with fixed depression of the fragments, nor with prolonged phenomena of compression or paralysis.

4. In a condition of cerebral commotion or of coma more or less profound, with or without a localized lesion.

5. In non-persistent, undetermined, or epileptiform convulsions susceptible of cure.

6. In well-marked diffuse inflammation of the brain or meninges.

ART. 148.—*On Extirpation of the Calcaneum.*

By Prof. POLAILLON.

(*Archives Générales de Médecine*, October.)

The following conclusions are given at the end of Professor Polaillon's memoir:—

“Extirpation of the calcaneum ought to be accepted in practice, for it permits of the preservation of a very useful foot for standing and walking.

“The number and the value of its success vary, above all, with the age of the patients operated upon.

“With infants and subjects at the age of puberty it succeeds in more than eight out of nine cases, and gives excellent results as to the ulterior utility of the limb.

“With adults it fails in one-half the cases, and, when it succeeds, gives generally less satisfactory results. The foot, in fact, accommodates itself badly to the loss of the calcaneum at the age when the growth of the skeleton has been perfected.

“In cases of disease of the calcaneum, the extirpation of this bone ought then to be always preferred to amputation with infants and patients at the age of puberty.

“But amputation succeeds better than extirpation with adults. With the latter a stump will generally form for the functions of the lower limb—a more solid and less tender point of support than a foot deprived of its calcaneum.

“It should be known, however, that amputation exposes the patient to a fatal risk in a much greater proportion than extirpation, and that in certain conditions the latter operation may procure a cure with much less peril to life.

“When an affection of the posterior part of the foot exists for a long time, notwithstanding the employment of repose and all the appropriate local applications; and when the question of an operation is put, the surgeon ought to direct the whole of his attention to finding out whether the calcaneum *alone is diseased*, or whether the disease has also attacked the neighbouring parts at the tibio-tarsal articulation.

“If the localization of the disease is recognised with certainty, extirpation of the diseased bone ought to be performed.

“But if the diagnosis of the limits of the disease cannot be determined either by methodical exploration or by functional disturbances—by the locomotion of the patient or by the history of the case, the idea of ex-

tirpation ought not yet to be abandoned. Everything should be arranged for the performance of the operation, and an *exploratory excision* made down to the bone in such a manner that the wound thus formed may serve, according to the extent of the disease, either for ablation of the calcaneum, for a tibio-tarsal disarticulation, or for amputation of the leg.

“In a case of comminuted fracture of the calcaneum by a gun-shot wound or any other cause, with a penetrating wound through the integument, extirpation will probably become necessary, because the osteitis generally results in caries. The surgeon before acting usually waits until it has been demonstrated that the osseous wound can heal by granulation.

“Central caries which has not yet attacked the articular surface of the calcaneum, indicates an operation for total removal of the bone.

“Peripheral caries, with suppuration of the calcaneal articulations, indicates an operation for disarticulation of the bone, and scraping and cauterizing the corresponding articular surfaces. But if the caries has deeply involved the astragalus, and the cuboid and scaphoid bones, it is prudent to perform immediate amputation at the tibio-tarsal articulation, in order not to be obliged to arrive at this necessity after a brief delay.

“Total necrosis and diffuse phlegmonous periostitis are the affections in which extirpation of the calcaneum is most successful, because the periosteum has been stripped off through suppuration, and the operation is thus reduced to a simple extraction of a sequestrum. It is in these cases, also, that the best osseous reproductions have been obtained.

“The neoplasms which may indicate extirpation of the calcaneum, are principally enchondromate or fibrous tumours, scarcely ever the cancers. At its commencement cancer does not form a sufficiently appropriate tumour for diagnosis. At a later period, when it has become larger, it involves the neighbouring tissues, so that it will not be prudent then to attempt any other operation than amputation of the whole foot.

“The presence of fistulæ, small ulcers, or an inflammatory condition of the skin of the heel, are not contra-indications to extirpation.

“But ulceration of the skin over a great extent, and its alteration by the spreading of a cancerous tumour, or even considerable thinning in consequence of the development of a benign tumour, are express contra-indications to extirpation. Even supposing that a cure could be made, the patient would be obliged to walk upon a weakened surface, and would be exposed to all the troublesome results of this condition.

“In all cases it is an advantage not to wait too long before operating.

“The traumatism of extirpation of the calcaneum is inconsiderable, and permits one to perform this operation even when patients are debilitated by long-continued disease.”

ART. 149.—*Tumour of the Submaxillary Gland.*

By Dr. TALAZAC.

(Thèse de Paris.)

Dr. Talazac gives full reports of four cases of these extremely rare and interesting affections. The first case, from the practice of M. Verneuil at the Lariboisière, was one of simple adenoma of the gland. The diseased mass was removed partly by the knife and partly by ligature, and the patient, a woman aged fifty-eight years, made a good recovery. The second case, also from the practice of M. Verneuil, was one of scirrhus of the gland. The tumour was removed by the knife and ligature, but the patient died on the third day in consequence of hæmorrhage and subsequent pyæmia. Another case was one of enchondroma in the gland, a description of which was given by Virchow. The last case, which was described by Schols, was also one of enchondroma. The growth was of firm consistence, surrounded by a layer of connective tissue, and weighed thirty-five grammes.

ART. 150.—*On the Contagious Origin of Catarrhal Conjunctivitis.*

By M. GOSSELIN.

(Archives Générales, April.)

M. Gosselin observes that besides purulent ophthalmia, which is admitted by all to be contagious, there are forms of conjunctivitis in which only a small quantity of pus is secreted, which becomes mixed with a notable amount of mucus and tears. This, which he terms semi-purulent conjunctivitis, in which the pus is only recognised by the microscope, is, however, also transmissible by contagion; and the same may be stated of conjunctivitis, which at an earlier stage has been purulent, and at a later one only furnishes a minute portion of pus mingled with mucus. Many writers admit that granular conjunctivitis is contagious, but it is not clearly stated whether this admission is confined to what are called true or neoplastic granulations, which are very rare, or to the false or papillary granulations resulting from hypertrophy of the conjunctival papillæ, which are usually met with.

Having paid much attention to this subject, M. Gosselin lays down the following positions, illustrating them by some cases:—1. *Non-purulent conjunctivitis is sometimes acquired by contagion from a similar form of conjunctivitis.* This is not unfrequently met with in parents who have acquired it from their children, who themselves may have acquired it in schools, &c. Catarrhal ophthalmia so contracted is usually of little importance, but the possibility of its being so produced enables us to guard against it by insisting on the separation of the patient from the contact or vicinity of those we wish to preserve from it. In some cases where this precaution has been neglected, the acquired disease may not be so simple in its course, but may become chronic, or involve

the cornea. 2. *A simple catarrhal conjunctivitis may originate from a purulent conjunctivitis.* M. Gosselin has never witnessed this as yet in the case of adults, although he believes it possible; but he has often seen nurses and others attending on infants suffering from purulent ophthalmia, become themselves the subjects of simple catarrhal ophthalmia which has promptly disappeared under prophylactics. He also gives a case at length, in which an adult acquired catarrhal ophthalmia from a child four years and a half old, having purulent ophthalmia, and which also exhibits the liability to relapse while exposed to the same influence. 3. *Catarrhal ophthalmia may be due to more or less chronic granular conjunctivitis.* Papillary granulations may result from catarrhal and semi-purulent conjunctivitis, and these, even when only in the form of blepharitis, may induce a catarrhal conjunctivitis, which itself is susceptible of becoming, but does not necessarily become granular. At the Hôpital des Enfants Assistés, where are temporarily placed the children of patients who are obliged for various complaints themselves to enter hospitals, catarrhal conjunctivitis is often acquired, and usually from subjects having granular conjunctivitis; and the children, when restored to their parents, frequently convey to them either simple or granular conjunctivitis.

As a general conclusion, M. Gosselin says that he feels quite authorized to state that simple catarrhal conjunctivitis, muco-purulent, or semi-purulent conjunctivitis, and granular conjunctivitis, are, as well as the purulent form, susceptible of being communicated by contagion, both by contact and miasmata; and that in consequence in such cases we should employ the following precautions:—1. Separate, wherever possible, the subjects of this affection. 2. When isolation is not possible, recommend the greatest care in the exclusive use of handkerchiefs, napkins, objects of dress, &c. 3. Avoid all contact with the faces of the patients. 4. Examine carefully the eyes of persons obliged to remain near those cases, so that any conjunctivitis that may arise may be summarily arrested. 5. Insist on these recommendations being especially observed in small rooms, schools, asylums, and children's hospitals, as accumulation of many subjects in the same atmosphere strongly predisposes to contagion.

ART. 151.—*On Adenoid Vegetations in the Naso-Pharyngeal Cavity, their Pathology, Diagnosis, and Treatment.**

By Dr. WILHELM MEYER, Copenhagen.

(*The Lancet*, December 4.)

There exists a peculiar form of defective speech, often accompanied with imperfect hearing, which is found to be dependent on the presence of exuberant growths or vegetations in certain parts of the naso-pharyngeal cavity. These vegetations, when examined microscopically, are

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, November 23. Communicated by Mr. Marshall.

found to be composed of the so-called "adenoid" tissue, and are accordingly to be regarded as overgrowths or morbid growths of the closed glandular structures allied to the lymphatic glands found naturally in or beneath the mucous membranes of the pharynx, the fauces, and the base of the tongue. Hence the term "adenoid vegetations" suggested for them. The presence of these vegetations in sufficient quantity impairs the power of pronouncing the nasal consonants; and gives a 'dead' character to the speech. They also impede respiration through the nose, and compel the patient to keep open the mouth, thus giving a vacant aspect to the face. If accompanied by deafness, the vacant look is still more remarkable. The nostrils are usually compressed. Other signs and symptoms are present, and the affection is sufficiently serious to merit attention. The author has briefly described the naso-pharyngeal cavity, in order to define with accuracy the usual seats of these overgrowths. The character of the vegetations themselves is next described. These vary in form and consistence in different situations, being sometimes cristate, and at others cylindrical or flat; sometimes they are solid and firm, and at others soft and highly vascular. The latter easily bleed when examined with the finger. Their microscopical structure also varies slightly, the firmer kinds containing the most characteristic adenoid tissue. Their relation to the normal structures in the naso-pharyngeal mucous membrane is very apparent.

Certain accompanying changes in the surrounding mucous membrane, in the tonsils, in the soft palate, and in the nasal fossæ, have been noticed, and must be taken into account.

The *symptoms* depend on the seat and size of the vegetations. Besides the peculiar effect on the speech, and the open state of the mouth, the nostrils are flattened, so that the nose appears compressed. Moreover, the patient often has a deficient secretion from the nostrils, and sometimes blood accumulates in the mouth. Deafness is occasionally combined with these symptoms. In using an ear-catheter in such a case, the stream of air entering the tympanum is arrested temporarily, without any apparent reason; and sometimes a bubbling sound is heard during insufflation.

The *diagnosis* of such cases is, of course, partly dependent on the presence of the above-mentioned signs and symptoms in a persistent or chronic form. These, however, may also indicate other affections of the nasal organs, such as chronic inflammation of the mucous membrane, and polypi, or chronic inflammation of the soft palate, or enlargement of the tonsils. Hence the physical examination of the parts concerned is indispensable as a means of diagnosis; and of these, touch is more easy and more sure than sight as a method of research. Digital examination of the cavity may always precede, and nearly always supersede, the use of the rhinoscope. Very full and practical instructions are offered for conducting this examination.

The *frequency* of the occurrence of these adenoid vegetations of the naso-pharyngeal cavity has been tested, in Denmark at least, by careful inquiries prolonged over about eighteen months. The statistics of this affection are shown in a tabular form, and are otherwise explained. It occurs especially in youth.

The *causes* of these vegetations are then briefly discussed, and especially their relation to deafness.

As to *prognosis*, it seems possible that they may diminish or become of less moment as age advances : but this is uncertain.

Their *treatment* is, in the last place, fully discussed. They may be most easily and rapidly removed by a ring-shaped knife, mounted on a long, slender handle, which is passed through one or other nostril, and manœuvred so as to sweep over the mucous surface affected with these vegetations. This proceeding is aided by the forefinger of the left hand passed over the tongue. Two or more operations are sometimes necessary. The bleeding is free, but not excessive. Sickness sometimes supervenes. A complete cure is usually accomplished—the voice becoming improved, the speech perfect, the nostrils expanded, the mouth closed, the aspect of the face is changed, and any accompanying deafness is relieved.

As an auxiliary means, the use of the nasal douche is of great importance. Nitrate of silver, or the galvanic cautery, may also be employed, with or without the previous application of the knife, according to special circumstances which are fully indicated. Many little practical details require to be attended to in order to ensure success,

To illustrate the remarks and conclusions above detailed, two typical cases are described, together with the treatment employed and the results obtained.

In conclusion, the real importance of this local disease is enforced, as a reason for bringing it under the notice of the profession in England.

Illustrated photographs of patients, taken before and after the operation, with drawings of the vegetations, of their microscopic structure, and of the instruments used in removing them, are added to the paper.

ART. 152.—*Ophthalmia Neonatorum*.

By J. SOELBERG WELLS, Professor of Ophthalmology in King's College, Ophthalmic Surgeon to King's College Hospital, and Assistant-Surgeon to the Royal London Ophthalmic Hospital.

(*The Lancet*, August 21.)

The following is a brief sketch of the leading features of the symptoms of this disease, its complications, and the treatment which is to be adopted. Its intensity, Mr. Wells writes, varies much. In the milder cases, the inflammation only assumes the character of slight catarrhal ophthalmia. The lids are somewhat swollen, red, and œdematous ; the palpebral and ocular conjunctivæ injected ; and there is a slight mucopurulent discharge. But in the severer forms the symptoms are very different. The lids are very red and swollen, the upper eyelid hanging down in a heavy fold. When the lids are everted, and the discharge is wiped away, the conjunctiva is found to be very vascular, swollen, and succulent, and its papillæ very prominent. There is often great chemosis round the cornea. The edges of the lids become sore and excoriated, and the lashes glued and matted together by the discharge. The latter is thick, yellow, creamy, and perhaps so copious that it oozes out

between the lids, and flows over the cheek; it is sometimes tinged with blood. On account of the laxity of the tissues, the swelling of the lids and conjunctiva is often very great, even in the milder cases, and perhaps quite disproportionate to the severity of the disease. Instead of being soft and doughy, the lids are sometimes hard and stiff, the conjunctiva pale and yellowish-grey, and the discharge scanty, thin, flaky, and somewhat membranous. This condition, to which Wecker gives the name of *cyanosis conjunctivæ*, is due to a great retardation in the circulation of the lids.

As the principal danger of the disease is the implication of the cornea, the condition of the latter should be frequently and carefully ascertained. At first there may only be a slight haze or steaminess of the cornea, or a more dense infiltration, which may pass over into an ulcer. The infiltration may gradually diminish in thickness, and be absorbed, leaving finally no trace behind it; but if it be dense and extensive, it may give rise to a permanent thick opacity. The ulcers may appear near the periphery or the centre of the cornea, and remain superficial, or may increase in depth and circumference, and lead to perforation of the cornea, thus giving rise to certain complications which vary in gravity and danger according to the extent of the perforation. These complications are—1, anterior synechia; 2, prolapse of the iris; 3, central capsular cataract; 4, displacement or obliteration of the pupil; 5, anterior staphyloma; 6, if the perforation is very extensive or the cornea sloughs, more or less of the contents of the eyeball are evacuated, and the globe generally shrinks and atrophies, or general inflammation of the eyeball (*panophthalmitis*) first ensues. Iritis may also supervene upon the affection of the cornea.

The disease is generally due to contagion, produced by gonorrhœa, leucorrhœa, or some other vaginal discharge. Sometimes the sponges or cloths used for washing the child are the carriers of the contagion. External irritants, such as exposure of the eyes to cold, bright light, dust, &c., are also a frequent cause. If the disease is due to contagion, the primary symptoms manifest themselves within the first two or three days; if to external irritants, three or four weeks may elapse before their appearance.

The prognosis is, as a rule, favourable, more especially if the disease is mild in character, and is seen at the very outset; if the cornea is not affected, and if proper care and treatment can be enforced.

The first indication in the treatment of *ophthalmia neonatorum* is cleanliness. The infant's eyes should be washed directly after birth, and the greatest care be taken that the same sponges, cloths, water, &c., are not used for the mother and child. The latter should not be exposed to cold winds or draughts, or bright, glaring light, &c. If its eyes are red and irritable, and there is a little muco-purulent discharge, a weak collyrium of sulphate of zinc or alum (one or two grains to an ounce of distilled water) should be applied two or three times daily. But if the inflammation runs high, and the discharge is thick, creamy, and copious, stronger astringents must be employed. In out-patient practice, where we cannot see the patients daily, the use of the following injection will be found the best mode of treatment:—Sulphate of zinc, two grains; alum, four grains; distilled water, one ounce. Some of

this is to be injected, with a small glass syringe, between the lids every fifteen or thirty minutes during the day, and every two or three hours at night; the frequency of the application and the strength of the injection varying with the exigencies of the case. Before it is employed, the eye should be cleansed with an injection of lukewarm water, so that the discharge may be washed away. Every day or two a drop of a strong solution of nitrate of silver (from four to ten grains to the ounce) may be applied. If only one eye is affected, the other should be protected against contagion by a firm pad of cotton-wool and bandage, this being removed twice daily so that the eye may be washed. If the patient can be seen once or twice daily, Mr. Wells prefers to apply the mitigated crayon of nitrate of silver (one part of nitrate of silver to one or two parts of nitrate of potash) to the conjunctiva, as we can regulate and localize its effect better. The lids being well everted, the crayon is to be lightly applied to the palpebral conjunctiva, its action being at once neutralized by a copious application of salt and water. If there is great swelling of the conjunctiva, the latter is to be freely but very superficially scarified with a small scalpel directly after the neutralization of the caustic. Then cold (perhaps iced) compresses should be applied to the lids, to diminish the inflammatory reaction, and assist in the contraction of the bloodvessels; but great care and circumspection are required in their employment, for if they are continued too long they may prove very injurious. If the edges of the lids are sore and excoriated, a little citrine ointment should be applied. When the disease presents the cyanotic character, and the discharge is weak and flaky, the nitrate of silver must be used with great caution. Wecker recommends small doses of mercury in such cases. Should the cornea become cloudy or ulcerated, atropine drops (two grains in an ounce of water) are to be used three or four times daily, the astringent treatment being continued as before. If the ulcer threatens to perforate, it should be pricked with a fine needle, and the aqueous humour be allowed to flow off very gently; this may have to be repeated several times. If perforation has taken place, and there is prolapse of the iris, the latter should be pricked with a needle, and on the aqueous escaping the prolapse will collapse, and then a firm compress bandage should be applied. It may be advisable to repeat the pricking of the prolapse several times. If the prolapse is large, it should first be pricked, and then snipped off with a pair of scissors. When the perforation of the cornea is extensive, and the lens is bulging into it, an incision should be made in the cornea, and the lens be allowed to escape, a firm compress bandage being at once applied. We may thus succeed in saving a sufficient amount of clear cornea to permit of the formation of an artificial pupil at a subsequent period, and thus perhaps save a certain degree of vision.

ART. 153.—*On Iritis.*

By Professor J. SOELBERG WELLS.

(The Lancet, September 18.)

Amongst the various causes of iritis must be especially mentioned rheumatism; exposure to cold winds, damp, &c.; syphilis; and wounds and injuries of the eye. Traumatic iritis often assumes the parenchymatous or suppurative form, and occasionally the serous. Iritis may also supervene secondarily upon an inflammation of other tissues of the eye.

With regard to the treatment, Mr. Wells strongly insists upon the extreme importance of widely dilating the pupil by atropine as soon as possible. Thus the chief danger—the formation of thick, firm, posterior synechiæ—is obviated; for these synechiæ are the most fruitful source of obstinate recurrent iritis, and are often also the cause of the extension of the inflammation to the ciliary body and choroid. Moreover, the dilatation affords rest to the inflamed muscular tissue of the iris; the tension and congestion of the eye are diminished, and the ciliary neuralgia relieved. In a healthy eye an extremely weak solution of atropine will suffice to produce wide dilatation; but in iritis a strong solution (four grains to the ounce) is necessary; for, on account of the inflammatory swelling of the tissue of the iris, and of the effusion of lymph amongst its fibrillæ, great resistance is offered to the action of the atropine. The author generally directs the patient to apply the strong solution at an interval of five minutes for half an hour at a time, to be repeated two or three times daily, until wide dilatation is obtained, or the effect is negative. But sometimes no effect is produced until the inflammatory irritation and eye-tension have been relieved by leeches or paracentesis. If the pupil is tied down by firm, unyielding synechiæ, atropine should be only used in moderation, for the purpose of soothing the eye. Should it subsequently cause irritation or conjunctivitis, a mild astringent or belladonna collyrium (extract of belladonna, half a drachm, to two ounces of distilled water) should be substituted. If the ciliary neuralgia is severe, leeches should be applied to the temple, and hot poppy or laudanum fomentations to the eye; and if the pain does not yield, a subcutaneous injection of morphia should be administered. Mercury need only be given if there is a very considerable exudation of lymph at the edge of the pupil, on the surface of the iris, or into the anterior chamber; or if there is a syphilitic taint, and the disease assumes a specific character. Mr. Wells prefers inunction to the administration of mercury by the mouth, and generally prescribes from half a drachm to a drachm of the mercurial ointment, to be rubbed in two or three times daily. The constant application of hot-water compresses to the eye often causes rapid absorption of the tubercles in the iris and of an hypopyon; but as they have to be continued without intermission day and night, few patients can or will submit to the trouble and inconvenience. In obstinate syphilitic iritis great benefit is also experienced from the administration of large doses of iodide of potassium. If the hypopyon is considerable, paracentesis must be performed, and, if necessary, repeated perhaps several times. But if the iritis is very severe and obstinate,

resisting all remedies, more especially if there are firm and extensive synechiæ, if the pupil is occluded, or the tension markedly increased, it is best to perform iridectomy at once, for this often affords the most striking benefit. In serious iritis the free action of the skin and kidneys should be maintained, atropine should be applied, together with a suppurating blister behind the ear. If symptoms of a glaucomatous nature supervene, paracentesis may be tried; but if it does not suffice, no time must be lost in performing iridectomy. In rheumatic iritis, the administration of the oil of turpentine, as first recommended by Dr. Carmichael, often proves very efficacious, although it is apt to produce derangement of the stomach.

ART. 154.—*Irido-Choroiditis.*

By Professor J. SOELBERG WELLS.

(*The Lancet*, November 6.)

Although we constantly observe numerous varieties of irido-choroiditis, we may yet practically divide them into two principal classes, the typical cases of which are distinguished by well-marked differences. It must be clearly understood, however, that we often meet with mixed forms, in which some of the symptoms of each class are present.

In the first form, the disease generally commences with iritis, terminating in circular synechia; a portion of the pupillary area, perhaps, remaining clear and the sight tolerably good. Then there appear peculiar knob-like bulgings of the iris, which may be partial or involve its whole surface, and which are due to a collection of fluid behind the iris. The pupil, being completely adherent, cannot of course yield to the pressure of the fluid, but remains *in situ*, and is sunk back or depressed in the centre of the bulgings. If the latter are considerable, they protrude far into the anterior chamber, and their apex may even touch the cornea. Towards the periphery the sloping of the bulge is gradual, but towards the pupil it is steep and sudden. The iris is mostly discoloured and attenuated, its fibrillæ opened up, and on its surface are noticed a few dilated tortuous veins. The eye-tension varies according to the stage of the disease: at first it is generally normal, but then it often augments; finally, however, it diminishes more and more until the eye may become atrophied. If the refracting media remain sufficiently clear to permit of an ophthalmoscopic examination, we find the vitreous humour generally diffusely clouded, with floating or fixed opacities suspended in it; there are also, perhaps, inflammatory changes in the choroid, and an opacity at the posterior pole of the lens.

In the second form the anterior chamber is also very shallow, the iris much discoloured, and its fibrillæ indistinct and stretched; and large tortuous veins are noticed on its surface, which is very pathognomonic of stasis in the circulation of the iris and ciliary body. The pupil is completely adherent and more or less occupied by lymph. The whole plane of the iris is pushed forward, so that the anterior chamber is greatly diminished in size; but the pupil is on a level with the iris, and is not drawn back into a crater-like depression, and the surface of the iris is

flat and not bulged forward into little knuckles. The advancement of the iris is not due to fluid behind it, but to the pressure of the lens and thick masses of exudation; for the capsule is more or less extensively and closely connected with the posterior surface of the iris by firm, dense, felt-like deposits of lymph. Although the lens may remain clear, the intra-capsular cells generally proliferate and become opaque, the nutrition of the lens in the vicinity is impaired, and it but too often becomes cataractous.

In irido-choroiditis the inflammation may commence in the iris, and extend thence to the ciliary body and choroid; or the reverse may occur—it may begin in the choroid and only secondarily and at a later period invade the iris. At an advanced stage of the disease it is often difficult to determine which course it has pursued. The following data will, however, afford some assistance in arriving at a conclusion upon this point. If the inflammation began in the iris, we generally find the structure of the latter much discoloured, attenuated, and atrophied, there having been repeated attacks of iritis; cataract also is less frequent, and occurs only at a later stage. The impairment of vision is less, being at first chiefly dependent on the lymph in the pupil, and only subsequently on cloudiness of the lens or vitreous humour; whereas if the inflammation began in the choroid, there are marked symptoms of choroiditis, the vitreous becomes hazy, the retina perhaps detached, the eye-tension diminished, and the lens cataractous. The degree of sight and the state of the field of vision are usually much more affected than when the inflammation commenced in the iris. The opacity of the lens frequently begins at the posterior pole, whence it may gradually extend, or it may remain stationary for a long time. This is termed “posterior polar cataract.”

In cases of obstinate recurrent iritis or of irido-choroiditis, iridectomy should be at once performed. But as the tissue of the iris is often very atrophied and rotten, it may be impossible to obtain at once a sufficiently large artificial pupil, and hence it may be necessary to repeat the operation. If the tendency to a recurrence of the inflammation persists after the first operation, much benefit is often experienced by making a second iridectomy in the opposite direction to the first, so as completely to cut off the two halves of the iris from each other. We not unfrequently find that the sight is but little improved by an iridectomy, and on closer examination with the oblique illumination the artificial pupil is seen to be occupied by uveal pigment, which has become detached from the iris. Now the possibility of this should always be borne in mind when we give a prognosis of the probable result of the operation. In such cases, a second iridectomy should be made in another direction, in the hopes of obtaining a clear pupil. If not, the lens will have to be extracted, for the layer of pigment is generally so closely adherent to the capsule, that it is not safe to attempt its removal by scraping it, for fear of rupturing the capsule and producing a traumatic cataract.

In the second form of irido-choroiditis, in which thick masses of exudation are lodged upon the capsule, a simple iridectomy will not suffice. For we fail to remove a good portion of the rotten iris, and the attempt only sets up renewed inflammation and increased proliferation

of the exudation masses. As it is generally quite impossible to remove the latter without rupturing the capsule and causing a traumatic cataract, which complicates matters still more, it is best, as Von Graefe has pointed out, to extract the lens before attempting the removal of the iris and exudation masses. A large incision is to be made downwards with Von Graefe's narrow cataract knife at the sclero-corneal junction, without, if possible, wounding the iris. But if the latter is much bulged forwards, the knife is to be carried boldly through it, which generally lacerates the capsule sufficiently to permit of the ready escape of the lens. If this is not the case, as much iris and false membrane should be torn away with a pair of forceps or a hook as will allow of the escape of the lens. Four or six weeks afterwards the artificial pupil should be made; the incision should be large, and a sharp-pointed hook be passed perpendicularly through the false membrane, and an opening of sufficient size torn in it.

As the success of the iridectomy and of the extraction of the lens in cases of irido-choroiditis is often invalidated by the contraction and subsequent closure of the artificial pupil, Mr. Bowman has devised the following operation, termed by him, "excision of the pupil," which has afforded favourable results. The puncture and counter-puncture may be made as in Von Graefe's operation for extraction of cataract (and with the same knife). The incision is not however, concluded, but a narrow bridge is left standing at its apex, which aids in preventing the escape of the vitreous. The blades of a pair of fine scissors are then introduced through the first incision (the puncture), and the one blade (blunt-pointed) passed in front of the iris; the other, which is sharp, pierces the iris and anterior capsule of the lens, and running down in front of the nucleus, and without moving it from its bed, a cut is made diagonally downwards as far as the centre of the lower part of the iris. The scissors are then withdrawn, and next introduced through the counter-puncture, and a similar incision made on this side, so that the two incisions meet at the lower part of the iris, including between them a large triangular piece of iris as well as the constrictor pupillæ. Finally the base of the triangle is divided by cutting through the upper portion of the iris lying between the puncture and counter-puncture, and the whole triangular piece is then removed, as well as any false membrane attached to it, with a pair of forceps. The bridge of cornea is then divided, and the lens removed in the usual manner. The operation has been varied by Mr. Bowman in two or three ways, according to the cases dealt with. When there is no lens to be removed, the bridge of cornea is not divided, as the operation is already complete. Sometimes the cut across the base of the iris, or the third above described, is not necessary, as the triangular portion of iris, including the pupil and capsule, admits of being easily torn off along the ciliary attachment. It is when there is a very dense and tough capsule or false membrane behind the iris that the third incision with scissors is chiefly required, as avoiding the dangerous dragging of the ciliary structures. In other instances, the entire section of the cornea has been made at one stroke without leaving the temporary bridge.

Mr. Bowman has also applied the same mode of operating to cases of dense membranous obstruction of the iris region, where the lens has

been previously removed, and to these he considers it to be particularly applicable, especially if its performance be delayed until all signs of inflammatory tendency have entirely disappeared.

ART. 155.—*Inflammation of the Lachrymal Sac*
(*Dacryocystitis.*)

By Professor J. SOELBERG WELLS.

(*The Lancet*, November 13.)

In treating cases of acute dacryocystitis our first endeavour is to obtain a good-sized opening into the sac, so as to permit of the free escape of the discharge. This may be effected either by making an incision into the sac through the skin, or by dividing the punctum and canaliculus quite into the sac.

The following is the latter mode of treatment :—The opening may be made either by the lower or the upper punctum. In the former case, a grooved director is to be passed through the lower punctum and canaliculus, and these are to be divided upon the director with Sichel's extraction knife. Instead of the director and cataract knife, we may employ a very fine pair of straight blunt-pointed scissors, the one blade of which is to be inserted into the lower punctum, and run along to the extremity of the canaliculus, and then divided at one snip. Mr. Wells, however, prefers Bowman's narrow, probe-pointed canaliculus knife, which is inserted into the punctum, and run, with its cutting edge upwards, along the canaliculus quite up to its extremity, and the latter can then be easily divided along its whole extent by lifting the knife from heel to point. The extremity and blade of the knife should be very narrow, otherwise it will be very difficult to introduce it if the punctum is small.

Mr. Wells thinks it better still to divide the upper punctum and canaliculus, for we then obtain a freer opening into the sac. This may be done with the director and cataract knife, or with Weber's beak-pointed knife. The little nodular beak point is to be inserted into the upper punctum and passed along the canaliculus into the sac, and the canaliculus divided to its whole extent. The instrument should then be passed somewhat further into the sac, and the internal palpebral ligament divided subcutaneously with a slightly sawing movement, the cutting edge of the blade being turned forwards and outwards. During the division it will be felt to grate a little. In this way we shall gain a very free opening into the sac, and afford ready access to the matter. A probe may then be passed to dilate the lower opening of the sac and the nasal duct. But if the mucous lining of the sac is much inflamed, it is better to abstain from the probing for a few days, as it only tends to irritate and excite fresh inflammation. After a free exit has been obtained for the discharge, the inflammatory symptoms rapidly subside, the pain is at once relieved, and the swelling disappears. Moreover, by the timely employment of this mode of treatment we may prevent spontaneous perforation, even when the skin over the abscess has already

become very thin. But if perforation is imminent, the sac should be freely opened with a scalpel, the incision running in a downward and outward direction, and being of a sufficient size to permit of the ready escape of the pus. A narrow strip of lint should be inserted into the sac, so as to keep the wound patent and permit of the draining off of the matter. A warm poultice is to be applied after the operation, and frequently changed. We may divide the upper canaliculus at the same time, which saves the patient the annoyance of two separate operations; or this may be postponed for a few days until the inflammatory symptoms have abated, and a probe should then be passed through the sac and nasal duct, so that a free passage may be gained for the tears and discharge. If perforation of the sac has already taken place before the surgeon saw the case, the upper canaliculus and neck of the sac should be freely divided and a probe passed daily. The irregular ragged opening in the skin should be lightly touched with sulphate of copper, which will soon cause it to cicatrize. If any fistulous openings exist in connexion with diverticula, they should be laid open and caused to heal from the bottom. In chronic inflammation of the sac, accompanied by an obstinate muco-purulent discharge, the treatment by division of the canaliculus and the passing of probes often does not suffice. In such cases the sac should be syringed out with an astringent injection (two to four grains of sulphate of zinc, or two grains of alum to one ounce of distilled water); to be repeated every day, or every other day.

[Two cases are related by Mr. Wells; one, an example of acute dacryocystitis, and the other of long-standing and obstinate blennorrhœa of the sac, which was finally cured by Stelling's operation.]

ART. 156.—*Cases of Iritis occurring in Syphilis Treated without Mercury.**

By G. G. GASCOYEN, F.R.C.S.

(*Medical Times and Gazette*, July 24.)

The paper contains a record of eighteen cases of syphilitic iritis which were successfully treated without mercury. Other symptoms of syphilis were present in all these cases; in seven of them there had been no previous treatment for the constitutional disease, and in eleven who were taking mercury when the iritis supervened, but who were not under its influence, the drug was at once discontinued. The treatment adopted was to place some drops of atropine solution, containing four grains to an ounce of water, in the eye three or four times daily; this was continued until the lymph had entirely disappeared and the natural colour of the eye returned. The average time during which the drops were employed was twenty-four days, and no ill-effects of any kind attended their application. Leeches were applied to the temple when there was much conjunctival redness, or, in less acute cases, blisters.

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, May 25.

Tonics, and to some debilitated patients wine, were given, but, when febrile symptoms were present, a simple saline mixture; opium was freely administered if pain were present. In all the recent cases the eye perfectly recovered, but in five severe old-standing cases, where firm adhesions had formed before the patient came under treatment, irregularity of the pupil remained, although useful vision was regained in each. Double iritis was present in four instances, and relapses occurred in two; they all, however, recovered completely under the same plan of treatment. Great stress is laid upon the importance of carefully neutralizing the atropine solution, and it is considered that inattention to this, and the very great frequency with which instillation of the drops has sometimes been practised, have, by irritating the eye, led to most of the untoward symptoms attributed to the use of atropine in recent iritis. The author considered that the large majority of cases of so-called syphilitic iritis commence with inflammation of the conjunctiva, which, like the other exposed mucous surfaces of the body, is peculiarly liable to congestion in syphilitic persons from very slight causes, and that the iris is attacked secondarily to this. The ocular portion of the conjunctiva is supplied by the anterior ciliary vessel as well as the iris; engorgement of the conjunctival vessels, therefore, is followed by the same condition in the iris, and soon determines inflammation. Examples of this kind are met with during the earlier period of constitutional syphilis, and the symptoms they present are so similar to those of syphilitic iritis, that, unless other syphilitic manifestations be present, the specific variety cannot be distinguished from the other. The author does not regard these as cases of true syphilitic iritis, but of simple inflammation of the aqueous chamber and surface of the iris, resulting from an extension of the conjunctival inflammation. Although excited by, they are not dependent upon, the syphilitic taint, and in their progress they differ in no respect from ordinary inflammation of a serous cavity in any other part of the body, and possess the tendency to deposition of lymph, formation of adhesion, &c., which is characteristic of this affection. For such, mercury is not required unless the peculiar property claimed for the drug in controlling serous inflammation be admitted, and respecting this there is at least much difference of opinion. There are, however, other cases, fortunately not very numerous, in which the iris is primarily attacked; these are indicative of a thorough and general contamination by syphilis, and are entirely dependent upon that disease. They occur during the more advanced period of syphilis, and are characterised by their painless chronic progress, and the formation of large nodular masses in the iris without previous implication of the other parts of the eye. The opinions of the best modern observers with regard to the nature of these peculiar tumours of the iris are considered; and although these authorities recognise the identity in composition between them and the gummatous tumours of other parts, they yet class iritis with the secondary affections of syphilis. The author, however, regards this disease of the eye, which he looks upon as true syphilitic iritis, as belonging to the more advanced, or so-called tertiary, stage of syphilis, and contemporaneous with ulcerations, nodes, &c., for which class of affections mercury is almost universally discarded, and therefore, although acknowledging the

great value of mercury in many forms of syphilitic disease, he recommends its discontinuance in syphilitic iritis.

Mr. Dixon said that, if Mr. Gascoyen had given mercury, he might have headed his paper "Cases *cured* by Mercury." Iritis does not last for ever, but we want, if possible, to cut it short. He was certain that he had cured thousands of cases by mercury. The treatment recommended was dangerous. There was also a want of precision in the paper. They wanted a few cases well described—what type the patient could read at given times, and so on. Patches of adhesion might have been left. Many cases of so-called iritis were found to be not really so if the pupils were dilated and the ophthalmoscope used. If the inflammation was deep-seated, atropine would be useless, as it only affected the pupil. If mercury gave such undeniably good results, he could not see his way to throwing it overboard. Small doses of the remedy were quite sufficient. Bloodletting was useless. Many years ago he had written a good deal against the use of belladonna in iritis, but he had changed his mind now.

Mr. H. Lee said that they could not well consider mercury with regard to iritis alone. There was no structure affected with secondary syphilis which might not get well of itself, but the question was, Will it recover sooner under the influence of mercury, and will it have a less tendency to relapse? Cases show that iritis might get well without mercury, but the most important point was the future of the patient. If mercury be not given, they will relapse; with mercury a large proportion never relapse. He regretted the separation of secondary and tertiary symptoms. He differed as to the distinction in treatment recommended. Mercury did as much good in tertiary as in secondary syphilis.

Mr. B. Carter thought few ophthalmologists could go far with Mr. Gascoyen, although he concurred as to the existence of special deposits in tertiary syphilis. Superficial disease of the eye might run its course without deep-seated disease, and he did not know that inflammation was ever reflected by means of the bloodvessels. He believed iritis to be primarily a nerve lesion, of which there were three causes, rheumatism, syphilis, and direct injury. The two former sets of causes act through the nerves. Pridgin Teale had already shown that atropine was sufficient as a remedy in about one half of the cases: in the other half mercury was necessary. He saw a case beginning the other day which atropine did not arrest. He asked if there were any adhesions left after the reported cure; if so, the disease would be apt to return.

ART. 157.—*Curious Instance of Occasional Sudden Failure of Sight.*

Under the care of Mr. HUTCHINSON, at the Moorfields
Ophthalmic Hospital.

(*Medical Times and Gazette*, September 18.)

A young woman applied at Moorfields, complaining of occasional sudden failure of sight. In an ordinary way her sight was, she said,

excellent, but very frequently it would become so misty that she could not see small objects. These attacks were especially liable to occur in the evening, but sometimes in the daylight any slight mental shock would cause them. She was accustomed to work at a sewing machine, and often for half an hour together she would be obliged to give it up from inability to see. She particularly mentioned that any slight mental shock would cause it, such, for instance, as the accident of breaking her needle at work, or suddenly meeting any one in the street. She had never been left in darkness, but during the attacks all objects became hazy and indistinct. On testing her vision she read ^{brilliant} easily, and read 20 at 20'.

Mr. Hutchinson remarked that two theories might be suggested to explain this curious symptom. It might be one of the cases of so-called "epilepsy of the retina," in which the bloodvessels suddenly become emptied; or it might be an instance of latent hypermetropia, with sudden failure of the overworked ciliary muscle. The latter proved to be the correct one. After atropine had been put into one eye, she could not, even with a diaphragm, see more than 50 at 20', and required + 10 to enable her to see 20. Thus there could be no doubt that she was constantly exerting her accommodation to the utmost, and that its sudden failure was the cause of her loss of sight. We may remark that sudden seizures, such as she complains of, are not a common symptom in hypermetropia. It is far more frequent to have prolonged symptoms of over-fatigue and its resulting asthenopia than to have periods of perfect sight alternating with those of complete suspension of the accommodation function. The case is, perhaps, allied to the group sketched out by Mr. Paget under the ingenious title of "stammering by other organs than those of speech;" at least, in so far as mental emotion appears to be the exciting cause.

ART. 158.—*Occurrence of Amaurotic Amblyopia long after the Injury, in Cases of Concussion of the Spinal Marrow.*

By Prof. T. WHARTON JONES, F.R.S.

(*British Medical Journal*, July 24.)

Professor Jones records four cases of this kind. In these cases the failure of sight was not experienced until some considerable time after the injury, which the author observes would tend to show that the affection of the eyes arose from a disturbance of the circulation, and consequent impairment of nutrition, leading slowly to degeneration of structure of the optic nerve and retina. "The part of the sympathetic system," says Professor Jones, "on which the healthy circulation in the eye and the due nutrition of the organ depend, has its roots in the spinal marrow in the region of the lower part of the neck and upper part of the back. Thence the nerve fibres pass to the sympathetic in the neck through the hypoglossal nerve and the anterior roots of the two last cervical and two or three uppermost dorsal spinal nerves. From the sympathetic in the neck, the internal carotid plexus arises, and

from this are detached fibrils, which, having passed from the cranium into the orbit, enter the eyeball, and are distributed to the muscular walls of the arteries of its internal tunics. Through these fibrils the sympathetic governs the contractions of the walls* of the arteries, and so regulates the variations in the width of their calibre. Variations in the width of the arteries of an organ imply, it is to be remembered, modifications in the flow of blood in the part, independently of the general effect of the heart's action. Thus it is that the healthy circulation in the eyes and certain other parts of the head, and their due nutrition, depend on the integrity of the sympathetic nerves in the neck.

"Lesion of the sympathetic nerve in the neck is followed by such a disturbance of the circulation in the eye, and consequently such changes in the nutritive process, as to lead to degeneration of structure and impairment of function.

"In the cases which have been related, the roots of the sympathetic in the neck must necessarily have participated in the injury which the spinal marrow sustained from the concussion in the accidents, on which the failure of sight supervened. The effect has been the disturbance of the circulation in the optic nerve and the internal tunics of the eyes, from which the deteriorated nutrition causing the impairment of sight, has directly resulted,

"That the eyes thus suffer from injury of the sympathetic nerves in the neck, the old experiments of Petit, and the more recent ones of Reid, Claude Bernard, Brown-Séquard, and many others have demonstrated. Section of the sympathetic in the neck of a dog, cat, or rabbit in the experiments referred to, was followed by vascular congestion and disturbed nutrition of the eye of the same side, leading, in some cases, to destruction of the organ, by penetrating ulceration, or even sloughing, of the cornea, and evacuation of the humours.

"The occurrence of inflammatory congestion of the eye after section of the sympathetic in the neck was, in the first edition of my work on *Ophthalmic Medicine and Surgery*, attributed to the consequent paralysis of the walls of the bloodvessels of the eye; and microscopical observations recorded in my essay on the *State of the Blood and the Bloodvessels in Inflammation*, published in 1850, showed, in illustration and corroboration of this view, that section of the ischiatic nerve in the frog, *which contains*, mixed up with the ordinary sensitive and motor fibrils, *the sympathetic filaments* which are distributed to the arteries of the limbs, was followed by dilatation of the arteries, with a fuller and more rapid circulation in the web. The blood in the capillaries and veins being, at the same time, unusually loaded with red corpuscles, the general effect to the naked eye was increased redness, not only of the web, but of the whole limb. An eventful result was opacity of the web, indicating an altered state of nutrition.

"In the cases related in the first part of this paper, the eyes, though seriously impaired in function, have not suffered disorganization such as

* The radiating muscular fibres of the iris are also under the government of the same part of the sympathetic nerve, being supplied with nerve-fibrils therefrom. But this is a point which does not immediately belong to our present subject.

was observed in the animals subjected to the experiment of dividing the trunk of the sympathetic in the neck. In the latter cases, the influence of the sympathetic on the circulation in the eye was completely cut off. In the former, the injury to the sympathetic, from the concussion of the spinal marrow, has been such only as to impair and pervert its influence on the circulation in the eye. It is to be remarked that the subjective symptoms which first attract notice in such cases may exist for some time without any material alteration of structure being distinctly observable under the ophthalmoscope. It is also to be remarked, in conclusion, that the inability which the patients laboured under to exert their sight for any ordinary length of time, which accompanied the amaurotic failure of sight, was different from the common form of asthenopia. The inability to exert the sight was owing, partly, to the irritable congested state of the eyes, and was, partly, one manifestation, among others, of the impaired energy of the body—sense and mind generally—which we saw to be a characteristic of all the cases which have been passed under review.”

ART. 159.—*Hyperæsthesia of the Ciliary Muscle.*

By Professor ED. JUNGE, St. Petersburg.

(*Zehender's Monatsblätter für Augenheilk.*, 1868, p. 244; *Edinburgh Medical Journal*, December.)

This affection is characterized by accession of pain whenever the power of accommodation is called into play by looking at a near object, the pain having its seat in the eye itself, and to a less degree in the parts around it. When the accommodation is completely rested, the eye is free from pain. The extent of accommodation is normal or slightly diminished. Atropine scarcely lessens the refractive power of the eye, and spectacles do not in the least relieve the complaint. This affection occurs most frequently in patients who are hypermetropic, but also in myopes, and even in persons whose accommodation is otherwise normal (emmetropic). Certain circumstances may predipose to the occurrence of this hyperæsthesia, but the disease may be viewed as essentially of a neuralgic character. Professor Junge relates a typical case—that of a lady, twenty-one years of age, who was shortsighted from childhood. On examination, the degree of myopia was found to be considerable (1-6th), of vision good (20-30ths). With the ophthalmoscope staphyloma posticum was observed, and capillary injection of the optic nerve. There was no trace of insufficiency of the internal recti muscles. The pupils were of natural size. Under the use of atropine, the degree of myopia slightly diminished (to 1-7th), and the injection of the optic nerve likewise became lessened. The patient read best without spectacles, and could not endure them even for distant vision, on account of the pain and fatigue they induced. She was very anæmic, feeble, and nervous, very easily fatigued, and readily influenced by external circumstances. She also could not bear almost any medicine—quinine even in the smallest doses soon produced narcotic effects. Pain

in the eye evinced itself for the first time when the system had been generally disordered, about a year previously ; since which time the pain has frequently returned. It sometimes continued steadily for a certain time, becoming increased when the power of accommodation was exerted ; at other times it only came on when the patient read or looked at near objects, and disappeared when the eye was rested. The pain was often of a burning character, and attended with sensitiveness to light and feeling of great fatigue. It sometimes was of a periodic character, returning daily at four or eight o'clock, and lasting for half an hour or an hour. This pain yielded to the administration of quinine. The hyperæsthesia was generally most marked when the patient's general debility was in any way increased. Under atropine the pain in the eye disappeared, but returned when its use was intermitted. But even when under the action of atropine the patient could not read without inducing pain in the eye, although the accommodation was thoroughly paralysed. During these attacks the conjunctiva sometimes became injected, but this yielded to weak lotions of sulphate of zinc and nitrate of silver. Considerable relief was experienced from the use of the cold douche.

From a careful consideration of all the symptoms of the case, Professor Junge conclusively argues that hyperæsthesia of the ciliary muscle is the only satisfactory explanation of the nature of the affection.

ART. 160.—*On the Abuse of Atropine as a Collyrium, and the Injudicious Employment of Collyria in general.*

By Dr. J. SICHEL.

(*Annales d'Oculistique*, tome lix. p. 155 ; and *Edinburgh Medical Journal*, December.)

Dr. Sichel is of opinion that, while the local application of the sulphate of atropine is of the greatest benefit when employed in suitable cases, this remedy is far too generally had recourse to in affections where its employment is neither necessary nor beneficial. He disapproves of the treatment of iritis by atropine collyria *alone*, without the simultaneous employment of antiphlogistic treatment. The treatment of iritis by atropine is founded on the erroneous assumption that dilatation of the pupil prevents the occurrence of iritis. Dr. Sichel, on the contrary, maintains that he has observed iritis to occur when the pupil was thoroughly dilated. He performs some experiments on rabbits and other animals, with the view of testing this point. He dilated their pupils thoroughly with atropine, and then, introducing a cataract needle, lacerated the iris ; and he found iritis to occur notwithstanding the mydriasis and the continued application of atropine. Still less does he consider atropine collyria beneficial in pustular and granular conjunctivitis or interstitial or vascular keratitis. Under this treatment the conjunctival and corneal inflammations are aggravated, while the dilatation of the pupil admits more light to the interior of the eye, and thus

increases the irritation of the retina. Even when applied to the healthy eye, this alkaloid produces persistent conjunctival injection, or an external ophthalmia. In cases where the pure atropine produces this external irritation, Dr. Sichel recommends glycerine to be added to the collyrium (atrop. sulph. neut. gr. 3-10ths, aquæ distil. 3v., glycerine ʒijss.). The collyrium should be used at first only once a day, and after the application the eye should be bathed for five or six minutes with a sponge dipped in cold water.

Dr. Sichel also refers to the poisonous effects sometimes produced by atropine collyria, which he attributes to the extensive use of atropine in eye-practice, and to the strong solutions employed. The collyrium should be employed with a fine camel-hair pencil to the inner surface of the lids, at the outer commissure. The lids are then to be closed, and the skin brushed over with the solution. Thus, only an infinitesimal portion of the collyrium reaches the puncta. As usually applied, the collyrium is dropped in at the inner commissure of the lids, and thus passes more readily through the tear-passages to the œsophagus, while the excess may flow over the cheeks, and into the mouth if not dried up.

ART. 161.—*Vesicular Body (Cyst) in the Anterior Chamber—Extraction.*

By Prof. BUSINELLI.

(*Annales d'Oculistique*, tome lx. p. 168)

Professor Businelli (Modena) records the following case:—A peasant, twenty-six years of age, applied for advice on account of an affection of his left eye. On examination a small round body was observed at the bottom of the anterior chamber of that eye. It was of the size of a butterfly's egg, and of a light yellow colour. In rapid movements of the eye from side to side it left its ordinary situation, which, however, it rapidly resumed. On examination with a lens, a very slender, transparent filament, springing from the external inferior pupillary margin of the iris, was observed, by which this body was suspended. This explained the pendulum-like movements it was observed to make when the direction of the eye was suddenly altered. The eye otherwise presented no morbid alterations that might serve to throw light on the origin of the above-described body. The conjunctiva was injected as in chronic catarrh, and the upper part of the cornea slightly opaque and traversed by several small vessels indicating chronic conjunctivitis, probably neglected, of a scrofulous nature. The iris was normal, the pupil central, round, and exhibiting no trace of formal affection of the iris. Vision somewhat enfeebled on account of corneal opacity. The right eye was quite normal.

As careful examination failed to detect any spontaneous alteration in form in the vesicular body, Professor Businelli decided that it was not a cysticercus; neither, from the appearance of the eye, could it be the result of iritic inflammation, or due to the presence of a foreign body which had penetrated the coats of the eye. Professor Businelli removed

the cyst through an incision in the cornea, and the patient left the hospital four days after with improved sight.

Under the microscope the cyst presented chiefly the appearance of atrophied iris tissue. M. Businelli is of opinion that the cyst was composed of the residue of the foetal pupillary membrane, and that the contents of the vesicle could only be aqueous humour, which had penetrated by endosmosis.

ART. 162.—*Case of Pemphigus of the Conjunctiva.*

(*Zehender's Monatsblätter für Augenheilk.*, 1868, p. 232; and *Edinburgh Medical Journal*, December.)

The following is a condensed account of an example of this rare disease:—Herr Raquet, sixty-eight years of age, has suffered for twelve years from pemphigus, which latterly confined itself to the face and the mucous membrane of the jaws. He underwent several courses of arsenic while under Professor Hardy for six years without material benefit. A year after the commencement of the skin-disease the eyes became injected and yielded a mucous secretion, but this disappeared under the use of sulphate of zinc wash. As the irritation of the conjunctiva returned he applied for further advice to a doctor in Paris, who probed the lachrymal canal, with the effect of increasing the conjunctival affection, after which, in the left eye, a fold of conjunctiva appeared to stretch from the inner angle towards the cornea. The mobility of the left eye became more and more restricted, ulceration of the cornea occurred, and, fifteen months after the probing of the canal, the lids had become almost entirely adherent to the globe. The cornea, which can only be partially seen through the narrow opening between the lids, is affected with xerosis, and vision is restricted to mere quantitative perception of light. The right eye is less affected, although here, too, the edges of the lids are adherent to the globe throughout their inner third. The conjunctiva is slightly hyperæmic, and exhibits a few papillary elevations and a smooth epithelial covering. The cornea is normal, and the sight excellent, only somewhat interfered with by the constant watering of the eye and a slight secretion of mucus. The patient states that periodically the eye becomes more inflamed, and then for two or three days is painful. Herr Raquet remained under observation several months, when it became evident that these exacerbations were connected with the breaking out of the pemphigus eruption on the face and mouth every three or four weeks. On two such occasions a grey vesicular elevation of the conjunctiva was observed, close to the oculo-palpebral fold. Twenty-four hours later the conjunctiva exhibited at this spot a slight erosion covered by a greyish secretion, and two days after appeared to be quite healed. After these attacks the motion of the eye appeared somewhat more limited. The treatment pursued consisted in a careful plucking of all the eyelashes, washing with weak lead lotion or milk, and moistening the lids very regularly with glycerine. Arsenic was also administered internally.

A similar case, recorded by Mr. White Cooper, is also referred to.

ART. 163.—*On Recent Improvements in the Operative Surgery of the Eye.**

By THOMAS BICKERTON, F.R.C.S. Edin., Surgeon, Eye and Ear Infirmary, Liverpool.

(*Liverpool Medical and Surgical Reports*, October.)

The author, after precluding his remarks by a few general observations on the recent advances in this department, aided greatly by the employment of the ophthalmoscope and by scientific research, proceeded to describe the operative treatment of certain diseases of the eye, and exhibited the instruments required. These various operations were described in the following order:—Slitting open the puncta lachrymalia, and the use of Bowman's or Von Graefe's probes for stricture of the lachrymal duct. A mode of destroying 'nævi materni' on the lids was next explained. Dr. Williams' method of treating trichiasis with caustic potash; the most recent mode of operating for entropion; Liebrich's subcutaneous division of muscles for squint; and excision of the eye-ball, performed for the first time by Dr. Stoeber, in 1841, were fully explained. Mr. Bickerton stated that he had no faith in 'abscission of the anterior half of the eye-ball.' The operations for soft cataract, by making a small incision into the cornea and evacuating the lens at different times, and extraction by suction, were next detailed. The author analysed the various operations for hard cataract. Schuft's operation, he stated, had not given good results, and had been replaced by Von Graefe's modified linear extraction. By this latter method, Mr. Bickerton had obtained most excellent results. The various sources of origin of capsular cataract and its treatment were then explained. The object in making an artificial pupil, and the modes of operating, by removing a portion of the iris, by withdrawing a portion of the iris (termed iridodesis), and by incision of the iris, were next discussed. The author strongly advocated iridectomy. He stated that, in performing this operation he seldom gave chloroform, and used Graefe's narrow 'extraction knife.' He had also operated by making a conjunctival flap, as in the 'modified linear extraction' operation, and had had satisfactory results. In considering the relative practical value of iridectomy, division of the ciliary ligament, and division of the ciliary muscle, he expressed the opinion that each was very useful in properly selected cases. The operations for puncturing the eye-ball were fully entered into; and finally the evacuation of effusions between the retina, choroid, and sclerotic.

* Abstract of a paper read at the Liverpool Medical Association.

ART. 164.—*On Cancrum Oris*.*

By THOMAS R. GLYNN, M.B. Lond.

(Liverpool Medical and Surgical Reports, October.)

The author confined the term to those cases in which gangrene of the lips or cheeks is a prominent feature. He did not think it was of the nature of a specific disease; because, 1st—It never attacks children as a distinct disease preceded by characteristic symptoms, though some have affirmed that it does; 2nd—It is always the consequence of some severe illness, especially of the eruptive fevers, and, of these, measles most frequently precedes it; 3rd—It is not infectious, though sometimes epidemic, but only as a consequence of the exanthemata. It very rarely attacks several children in a family simultaneously. It appears to depend upon great deterioration of the blood, springing from a general adynamic state, which may originate from many and various depressing causes. It is much more rarely met with among adults than among children, though not unknown among the former. The facts that the mucous membrane of the mouth is more liable to disease in children, and that measles occur chiefly among them, account partly for their great liability to cancrum oris. It has been known to occur at so early an age as nine days. It rarely attacks both cheeks, except as the result of mercurial salivation. Girls are most subject to it, and the majority of cases occur in large towns and manufacturing districts. It is emphatically a disease of the poor. Sometimes symptoms almost like scurvy are present, and the author expressed the opinion that it is not improbable some intimate relation may exist between scurvy and cancrum oris. He did not believe that mercury is the most common cause of the disease, as some think. He considered the gangrene to be the result of a low, erysipelatous inflammation, commencing in the mucous membrane of the mouth. Gangrene of other parts may occur as complications, also pneumonia, which is very common, pleurisy, pericarditis, and other diseases of the mucous and serous membranes. The rate of mortality in cancrum oris has been excessively high. With regard to treatment, the author remarked that before applying escharotics, the general condition should be considered rather than the local. Nitric acid is useful at first, but its repeated application is injurious. Antiseptics are of great use. Tonics and stimulants constitute the proper internal treatment. The author gave the details of two cases, treated successfully by the use of chlorate of potash wash, and the internal administration of ammonia, chlorate of potash and bark, with beef tea, wine, and brandy.

* Abstract of a paper read at a meeting of the Liverpool Medical Association.

ART. 165.—*On Accumulation of Mucus within the Tympanum, and its Treatment by Incision of the Membrana Tympani.*

By JAMES HINTON, Aural Surgeon, Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

An excessive secretion from the mucous lining of the tympanum, and its retention within the cavity of the ear, is a very frequent condition, and is not difficult to treat; but there is another class of cases, in which the secreted mucus is neither absorbed nor escapes through the Eustachian tube, nor finds its way through the membrana tympani, but remains for an indefinite period within the tympanic cavity, producing great deafness and general suffering. Although these cases have long been recognised, it is only lately that their great frequency has been understood, and the facility with which they may be cured by incision of the membrane has been appreciated. Mr. Hinton describes particularly the appearances presented in this affection, and he relates the particulars of four cases which were treated by the plan described. He states that his remarks apply only to cases where mucus is retained within the tympanum, and not to suppuration; in which latter case the matter should be promptly evacuated by incision of the membrane, as has often, if not yet often enough, been insisted on.

ART. 166.—*On the Application of Caustics to the Ear.*

(*Archiv für Ohrenheilkunde*, June.)

Professor Schwartze states that in the treatment of suppurative catarrh of the middle ear by caustic lotions there is a risk, when the patient's head is placed in the horizontal position, of the solution passing into the opposite Eustachian tube, and setting up severe inflammation of the other, and probably healthy, ear. A case is related by Schwartze in which the repeated application of a strong solution of nitrate of silver, which was applied with the patient's head in the upright position, and was not subsequently neutralized by a solution of common salt, gave rise to suppurative inflammation of the middle ear on the opposite side, which necessitated artificial perforation of the membrana tympani, and, at a later date, in consequence of the extension of the mischief to the mastoid cells, trephining of this osseous process. Schwartze holds, for these reasons, that it is advisable to avoid a horizontal position of the head during the application of a strong lotion, but rather to keep it in such a position that the injected fluid can readily flow back from the auditory canal.

ART. 167.—*On Auditory Objective Bruits.*

By Dr. E. LEUDET.

(Gazette Médicale de Paris, No. 35.)

1. The ears are the seat of several varieties of bruits. Some are appreciable exclusively by the patient, and are called subjective; others are appreciable simultaneously both by the patient and by the observer, and are called objective.

2. There exist various kinds of objective bruits; some are voluntary, others involuntary.

3. The involuntary objective bruits of the ears are rare: they may be muscular bruits. At other times they consist in a kind of crepitation and of crackling, and are identical with those which some persons can produce at will.

4. This involuntary crackling bruit in the ear may coincide with a tic in the face, and seems to be caused by a rhythmical convulsion of the internal muscle of the malleus, shaking of the chain of ossicles, and, consecutively, of the membrana tympani.

ART. 168.—*On Certain Sympathetic Nervous Phenomena which are Produced during Acute Inflammation of the Membrana Tympani, and frequently by merely Simple Compression of this Membrane.**

By M. BONNAFONT.

(Gazette Hebdomadaire, No. 36.)

Acute inflammation of the membrana tympani may excite nervous phenomena simulating meningitis, and which may easily impose on an inexperienced practitioner, and cause him to think of some real disease of the meninges.

With regard to the symptoms, some are constant, such as pain, heat, humming noises, and a more or less marked dulness of hearing; but, in addition to these symptoms, there is a crowd of others which vary according to the individual. For instance, some experience very severe pains in the head, with vertigo; occasionally there are bruits in the ears, which are sometimes acute, sometimes serious, and may even simulate an orchestra, or the sound of bells, &c.

Compression of the membrana tympani, whether it occurs from within outwards, or from without inwards, always excites vertigo, the intensity of which is in a ratio to the idiosyncrasy of the patients; in some the application of a single drop of water to the membrane suffices to provoke them. When, in consequence of a pathological condition of this membrane, one is obliged to act upon it with a cutting instrument, the pain which results from the operation reacts sympathetically upon the

* Communicated to the Académie des Sciences, August 23, 1869.

lachrymal gland on the same side, and instantaneously produces an abundant secretion of tears; whilst, on the other hand, if one touches the same points of the membrane with a crayon of nitrate of silver, the patient experiences a slight pricking sensation on the same side of the tongue, accompanied with a metallic taste. These very curious and almost constant phenomena have also been observed by M. Duchenne.

ART. 169.—*On a New Method of Using Needles in the Operation for Harelip.*

By LAWSON TAIT.

(*The Lancet*, September 25.)

What Mr. Tait proposes is, that instead of two or more needles being introduced transversely through the flaps, they should be used in this manner: Having made what incisions he deems requisite for the operation (Mr. Tait here says that he has abandoned all the fancy manipulations for the old-fashioned straight incisions, removing plenty of tissue), the surgeon is to introduce two ordinary sempstress's needles, armed with a few inches of silver wire doubled, through the flaps, in the form of a St. Andrew's cross; the point of each needle is to be introduced through the mucous membrane of the lip, about half an inch from the edge of the flap, and brought out at the middle of the incision, then introduced into the other flap at the point opposite, and brought out at the root of the ala of the nose. The needles cross in the middle of the wound. The flaps are to be carefully adjusted, then the heads of the needles to be pushed fairly into the lip, and pulled together by twisting the wires; the points of the needles are then to be cut off close to the skin, and the stumps retracted into the flaps. In this way nothing is left to "catch," and when the needles are removed, by untwisting the wires and pulling by them, there are no scars left.

In the last case in which Mr. Tait used this method the parents of the child, aged seven years, say that it is scarcely possible for a stranger to tell that the child had been operated upon, and in this case there was a complete and very wide intermaxillary cleft, which Mr. Tait had previously closed.

ART. 170.—*On the Use of Chloroform in the Cure of Cleft Palate.*

By THOMAS SMITH, F.R.C.S., Assistant-Surgeon to St. Bartholomew's, and Surgeon to the Hospital for Sick Children.

(*The Lancet*, August 14.)

In October, 1867, Mr. Smith presented to the Royal Medical and Chirurgical Society a paper on the "Cure of Cleft Palate by Operation in Children." In this he advocated the performance of the operation in early life, and described a species of gag by the aid of which the opera-

tion could be done under the influence of chloroform. A plan of operation was also described, more rapid of execution, and entailing less violence on the soft parts, than the method in ordinary use, and therefore more suited to the delicate tissues of young children. The advantages expected to result from the plan advocated were—1. The painless performance of the operation on patients of any age. 2. A much better result as regards articulation when the operation is done in early life than when the cure is postponed until the usual age for operation. 3. The more complete cure of clefts in the bony palate, owing to the more vigorous bone-producing property of the periosteum in early life. The data upon which these expectations were founded were derived from the results in eleven cases—all that the author had at that time operated upon. The experience of himself and others during the last two years, and a much larger number of cases, have, Mr. Smith writes, justified the expectations he formerly entertained.

ART. 171.—*Case of Epithelioma of the Tongue. Complete Extirpation of the Organ. Return of the Disease.*

By GEO. E. FENWICK, M.D., Professor of Clinical Surgery, McGill University. Reported by GEO. ROSS, A.M., M.D., House Surgeon, Montreal General Hospital.

(*Canada Medical Journal*, August.)

Siméon Gauthier, aged forty-five, was admitted into the Montreal General Hospital on the 15th of February, 1869, suffering from epithelioma of the tongue. He is a man of good build, but sallow and unhealthy aspect; he has, however, always enjoyed fair average health. The ulcer occupies the left side of the tongue, about $1\frac{1}{2}$ inch from the tip, and is about as large as a quarter dollar: it has the characteristic hard, raised edges, and a foul sloughy base. The floor of the mouth and under surface of the tongue are quite healthy in appearance. It has existed for only one month, and consequently its growth has been exceedingly rapid. It began as a very small ulcer, which was irritable and troublesome; and latterly he has suffered from severe lancinating pains through the tongue and below the lower jaw. The teeth corresponding to the ulcer are smooth and even, and could not possibly have abraded the edge of the tongue. He has been a smoker for many years, always using a clay pipe, and sometimes was conscious of a slight scorched feeling of the tongue after smoking heavily. His family history gives no sign of cancerous taint: his father died at an advanced age, he thinks of some pulmonary complaint, and his mother is still living and well: he knows of no instance of cancer of any kind amongst his other relatives. The sublingual and submaxillary glands are quite unaffected.

On Tuesday, the 16th February, Dr. Fenwick, assisted by Dr. Geo. W. Campbell, Professor of Surgery, McGill University, proceeded to the operation of ablation of the entire organ in the following manner: The tongue was first transfixed by a strong double hempen ligature, and the

ends taken charge of by the assistant. The incision was made in the mesian line below the jaw, the curved needle thrust into the mouth midway between the symphysis and hyoid bone, and the chain of the *écraseur* drawn through; this was then pressed well back by Dr. Campbell (the tongue being at the same time drawn forcibly forward). The instrument was fixed, and tightening immediately begun. The time was taken by Dr. Howard, and 30 seconds allowed to elapse between each *click* of the handle. At the end of 20 minutes it was found that the division was complete, and the tongue was gently drawn from the mouth by Dr. Campbell by means of the cord attached to it, and the operation was finished.

During the whole proceeding the patient was completely anæsthetized, the influence having been first established by chloroform and then continued by ether, the latter having been preferred on account of his age and rather debilitated condition.

The bleeding was extremely trifling, calling for no interference whatever.

He was put to bed, and ordered to have small pieces of ice in the mouth from time to time. At 9 P.M., his pulse was 87; no bleeding; no pain; could swallow a little milk and a few spoonfuls of beef tea.

17th February.—Slept several hours during the night; cheerful; pulse 85; swallows fluids with very little difficulty.

18th February.—Doing well; floor of mouth covered with a yellowish slough; *ordered* lotion *acidi carbolici* (1 part to 30 parts of water) to be used frequently to rinse the mouth. Articulates even now some words without much apparent difficulty.

He recovered without a bad symptom, the wound granulated rapidly, and he was discharged well (to all appearances) on the 20th March, 1869.

No more was seen of the patient until he returned to the out-room of the hospital complaining of a small lump in his neck. This was in the first week of July. The disease had returned in the glands of the neck, $4\frac{1}{2}$ months after the operation. Since that time until closing this report, 21st August, 1869, the disease had progressed with its usual rapidity, and now the whole of the left side of the neck is involved in an enormous cancerous mass, which will of course very shortly prove fatal, as his general health has already suffered very considerably.

This is the second case of excision of the tongue which Dr. Fenwick has performed, and the operation in each case was a modification of that described by Mr. Nunneley, of Leeds.

Dr. Fenwick draws attention to the fact, that in both cases the loss of blood was very trifling, although the whole organ was removed, or as much of it as was possible to include in the chain of the *écraseur* without injury to the epiglottis.

With regard to the advantages of the operation, the author looks upon it as not only justifiable but desirable, as it removes from the sufferer a foul ulcerated sore, which is a source of great misery from its situation, and must, to a certain extent, act injuriously on the patient's general health, interfering greatly with his digestive organs, as no particle of food can be taken without some portion of the discharge from the sore passing with it into the stomach.

ART. 172.—*Exophthalmic Goitre.*

By W. B. CHEADLE, M.D.

(The Lancet, June 19.)

An important contribution to the clinical history of exophthalmic goitre, a disease which has recently been brought prominently before the notice of several societies, was made to the Harveian Society by Dr. W. B. Cheadle, at a late meeting. Dr. Cheadle has met with eight cases of this disease during the last eighteen months, and of these six exhibited its three leading features—viz., palpitation, enlargement of the thyroid, and prominence of the eyeballs, in a marked degree. In the two remaining cases, one of the three great symptoms was absent; in one there was no goitre, and in the other no exophthalmus. Seven of the cases occurred in females, and one only in a male. In the latter, no cause could be discovered on most careful and repeated inquiry which would account for the attack. Of the seven cases occurring in females, four were associated with disordered menstruation, one with the advent of puberty, and one with the final cessation of the catamenia. Five of the women were anæmic, although not in any extreme degree; but the remaining two, and the man, were full-blooded and robust. In every case palpitation was the first, or one of the first symptoms noticed, and the action of the heart always rapid and forcible. The pulse was generally full and jerking, and ranged between 84 and 144, being, however, rarely found in any instance below 100, although showing great fluctuations between the limits. The temperature had been carefully registered in most of the cases, and found to be generally above the normal—in one case as high as 101° ,—showing, however, like the pulse, considerable variation. In one case, which had been under observation for above a year, although recovery had appeared to be almost complete for some months, the pulse remained above 100, and the temperature about 99° . Observations were made to determine whether any difference existed between the temperature of the cheek and that of the axilla, or between the two cheeks, with the view of obtaining evidence respecting any affection of the cervical sympathetic. The results showed a general difference of half a degree in favour of the axilla, and corresponded with those obtained from persons in perfect health. In one case, however, the temperature of the cheeks was found to be two degrees lower than that of the axilla. This was observed twice only, the temperature having the normal relations as in the others, on all other occasions. In no instance was any material difference between the two sides of the body discovered, either in the cheeks or axilla. The pupils were found to be somewhat dilated, but responded readily to light and atropine, except in one instance, where there had been severe inflammation of both eyes. The impulse of the heart was always increased, and accompanied by arterial throbbing. In no case could hypertrophy or distinct organic disease be made out.

Amongst other symptoms observed in the majority of cases, were irritability of temper, great nervous excitability, flushing of the face, and increased palpitation on the smallest excitement or exercise, epis-

taxis or diarrhœa, and profuse perspirations. In the case of the man, all the three principal symptoms were strongly marked, and the pressure of the goitre produced grave dyspnœa. The circumference of the neck measured $17\frac{1}{2}$ inches. Iodine and glycerine were applied under oiled silk, and ten-minim doses of the tincture of iodine given internally. The goitre rapidly decreased in size, all the symptoms abated, and the neck was eventually reduced to a circumference of $13\frac{3}{4}$ inches. The iodine was given internally for nine months, with short intermissions only from non-attendance, without producing any increased palpitation or other ill effect. A second case, in which the goitre was large, and the other symptoms severe, was treated in the same manner with equal success. In one case only out of six in which iodine was given continuously for many weeks, it was deemed necessary to discontinue its use on account of increased palpitation following the administration of fifteen-minim doses.

In considering the bearing of the evidence afforded by these cases upon the nature of the disease, the author observed that increased action of the heart was not only an invariable symptom, but also one of the earliest in point of time, as in the cases related. If the sequence were real, the congestion or hypertrophy of the orbital cushions and thyroid might be explained as a result of hyperæmia from increased cardiac and arterial action. But the case of injury to the cervical sympathetic lately brought before the Medico-Chirurgical Society by Dr. W. Ogle seemed to show that mere hyperæmia was not sufficient. There must be something in addition, a nerve stimulus which at the same time sets the heart going at such an unwonted pace. The excessive cardiac action being viewed as the key to the series of phenomena, it was necessary to go a step further back, and seek the nerve source of this.

The author considered the morbid changes found in the cervical sympathetic on post-mortem examination, in a number of cases during the last few years, quite inadequate to explain all the phenomena observed. If the cervical portion of the ganglionic system were alone affected, it was, *primâ facie*, improbable that both chains should be implicated at the outset in every case. These chains had been shown by experiment to have singularly independent action; and yet, in the cases observed, no difference of temperature between the sides, such as lesion of one chain would produce, could be detected. Nor was there any disparity between the cheek and axilla, except casually in one case; showing that the morbid condition, whatever it might be, was not limited to one chain of ganglia only, or to the cervical portion only.

The symptoms of exophthalmic goitre corresponded partly to paralysis, and partly to irritation of the sympathetic. The increased heat and arterial action were consistent with the former, the cardiac excitement, the exophthalmus, and the dilatation of the pupil with the latter. Symptoms indicative of such opposite conditions were difficult to reconcile; but they appeared to show that the sympathetic system was in some way or other largely implicated.

The rapid, jerking pulse, persistent palpitation without organic disease of the heart, or acute disease, to account for it, and perhaps

increased temperature, were suggested as valuable aids towards the diagnosis of the complaint in its early stages; and some sphygmographic tracings were exhibited, illustrative of the difference of the pulse in this disease and in simple anæmia.

ART. 173.—*On Removal of Laryngeal Polypi.*

By Dr. KRISHABER.

(*Gazette Hebdomadaire*, No. 34.)

In this contribution is reported an interesting case of successful removal of a polypoid tumour from the ventricle of the larynx after division of the thyroid cartilage. Dr. Krishaber gives the following conclusions at the end of the article:—

1. There are cases of polypi of the larynx in which the growths cannot be destroyed and extirpated whilst the natural passages are intact. In these cases the larynx may be directly opened, and complete cicatrization and cure of the patient be thus obtained.

2. The kind of operative proceeding will depend on the tumour and its structure. The opening into the larynx may be made either through the laryngeal membranes or through one of its cartilages.

3. In cases where the polypus is implanted in the ventricle of Morgagni, the section should be made through the thyroid cartilage. The amount of separation is sufficient for the extraction of even a large polypus without section of the thyro-hyoid and crico-thyroid membranes. The section of the cartilage may be made without interfering with the vocal cords, and the voice then remains intact. Ossification of the cartilage is not a contra-indication, although this condition retards cicatrization.

4. Laryngotomy, which consists in a section *en masse* of the whole body of the larynx, its membranes and cartilages, such as has been performed a certain number of times, ought to be rejected from practice.

5. When by means of the laryngoscope the exact seat of the tumour has been made out, it suffices to cut into the larynx over this exact spot.

6. Of all the proceedings hitherto employed for the extraction of polypi, Dr. Krishaber's operation is that in which the laryngeal incision is the least extensive.

ART. 174.—*Wound of the Larynx; Laryngeal Suture; Healing by First Intention.**

By M. PRESTAT.

(*Gazette Hebdomadaire*, No. 33.)

Some eight years since M. Prestat was called to a farmer who had just cut his throat. This man, aged thirty years, was a victim to attacks of

* Communicated to the Société Impériale de Chirurgie, June 10.

hypochondria, in one of which he made on the front of the neck a large and deep wound, with one stroke of a razor, and caused profuse hæmorrhage. One hour and a half after the attempt at suicide the patient was found in the following condition :—

The face was pallid and anxious, the pulse feeble. A large transverse wound extended from one sterno-mastoid muscle to the other, and exposed the interior of the larynx, the whole breadth of which was divided at the superior third of the thyroid cartilage. The razor had passed immediately above the superior vocal cords without wounding them, the glottis was left intact. The posterior wall of the larynx also remained untouched. On raising the man's head, air passed through the wound, and there was no voice. By depressing the head, the two lips of the laryngeal wound could be exactly approximated, respiration was carried on, and the voice restored, only the timbre remained very low. On the left side of the cutaneous wound the superior thyroid artery, completely isolated, could be seen pulsating along an extent of two or three centimetres.

M. Prestat undertook to approximate as exactly as possible the two margins of the laryngeal wound. As the thyroid cartilage was not ossified, it was decided to apply a suture. A needle carrying a double thread was passed from without inwards at first through the cartilage on the left side about a demi-centimetre below the wound, and carried into the wound between the cartilage and the laryngeal mucous membrane; then the same needle was passed from within outwards through the superior fragment of the cartilage without wounding the mucous membrane. A double thread was applied in the same manner to the right side of the wound. The two lips of the wound could be readily brought together, and the sutures tied. As there was fear of ulceration of the thyroid artery, two ligatures were applied, and the vessel divided.

At the end of a quarter of an hour, as the respiration was performed regularly, and there had been no cough, and as air did not pass through the wound, the cutaneous wound was closed by fixed points of interrupted suture. The head was kept in a position of forward flexion. At the end of some hours the patient was visited : respiration continued to be easy; there had been no emphysema; and deglutition was well performed. On the following day the patient could speak without pain, but his voice was low; the reunion of the cutaneous wound became almost complete. The patient partook of fluid nutriment. On the tenth day the left suture thread was removed from the larynx; and on the sixteenth day the other was detached. At the end of three weeks the patient was completely cured, with the exception of a fistulous point, which corresponded to the passage of the right laryngeal suture. On the thirty-third day a small osseous ring passed away from this fistula which cicatrized immediately afterwards. The voice was preserved with a diminution in its timbre, and there was no tendency to coughing.

The sharpness of the section of the larynx, and the close coaptation which was a consequence of this, were very favourable to the employment of the suture. Any contused wound with dentated margins would, from the swelling and inflammation of the mucous membrane it occa-

sions, be a contra-indication to this kind of treatment. The laxity of the sub-mucous tissues allowed M. Prestat to pass the needles without wounding the mucous membrane. By producing immediate reunion of the wound, the suture of the cartilage guarded the patient from those symptoms which might have induced suppuration of the wound, contraction and obliteration of the larynx; the voice has been well maintained.

Notwithstanding all these advantages, the suture of the superficial part of the wound has been strongly controverted, and for a long time has been rejected by the majority of surgeons. In M. Prestat's case this treatment gave a very good result, and the exact adaptation of the two parts of the larynx having sheltered the patient from emphysema, M. Prestat found great advantages in the suppression of the suppuration of this wound. I think that this fact is such as to encourage the surgeon to have recourse in like cases to suture of the laryngeal cartilages, and even to attempt that of the soft parts, provided that in the latter case the sutures be divided whenever emphysema commences to manifest itself.

ART. 175.—*A Case of Epithelioma of the Œsophagus, in which Gastrotomy was performed. With Remarks.*

By ARTHUR E. DURHAM, F.R.C.S., Assistant-Surgeon, Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Medico-Chir. Review*, October.)

Although this was an unsuccessful case, Mr Durham thinks it right to publish it, and he considers the performance of the operation was quite justifiable. The patient was an old man, who was troubled with continual vomiting, and inability to swallow liquid food. The stomach was opened, and made to communicate with the external air, and milk and water was introduced by means of an elastic tube. He soon died, however, and the obstruction was found, as was anticipated, to be due to epithelioma of the œsophagus, and accompanying constriction of the tube. Mr. Durham considers it doubtful whether life has ever been prolonged by this operation, but still he thinks it ought to be performed. It has always hitherto been performed too late, as in the case recorded; but if it were done earlier, and the patient were brought in a favourable condition, it might be the means of lessening suffering, and of lengthening life, even if it did not permanently remove, or cure, the disease.

ART. 176.—*A Case in which a Live Fish found its way into the Œsophagus, and was Impacted for about Sixteen Hours.*

By W. STEWART, M.D., Surgeon 2nd Batt. 21st Fusiliers.

(*The Lancet*, September 25.)

Dr. Stewart is induced to record the following case, interesting from its rarity, inasmuch as the foreign body was alive when the accident

happened, and probably remained so long afterwards, while imprisoned in the œsophagus.

On the morning of the 8th May, 1869, a native puckally of the regiment, named Chengamully, was brought to the hospital of the 2nd batt. 21st Fusiliers, in a state of great distress—suffering from intense pain low down in the œsophagus. There was much difficulty in breathing, and the patient was unable to swallow liquids or solids. He assumed a posture leaning forward, as the attempt to stand erect caused more distress. The patient stated, as also the friends who accompanied him, that on the previous evening, while fishing at “The Lake,” he caught a fish, which proved unusually lively, and in order to extract the hook from its gills, he seized the fish with the fingers of the left hand and the hook with his right, and, with the head of the fish between his teeth, effected his object. He had scarcely done so, however, when the animal, with its long, sharp, dorsal fin, pricked the palm of his hand, causing him suddenly to let go his hold, and involuntarily to open his mouth at the same time, when the fish bolted down his throat; and although he grasped it by the tail in its descent, and squeezed his pharynx with the other hand, all his efforts were ineffectual—the fish made its way to the position above described.

A live specimen of the kind of fish impacted had been brought to the hospital by the man's friends for inspection. It was about the same size, and caught the same evening. It appeared to be identical with the *Anabas scandens* (the walking perch of Ceylon), called by the Hindustanees here the sooma. This fish is remarkable for its power of locomotion on dry land (making long marches by means of its pectoral fins), and for the length of time it can live out of water. It is said that the fishermen on the Ganges will keep these fish in earthenware vessels without water for four days, taking them out to cook when required, when they are as lively as when first taken. The specimen under observation had been out of the water all night, and, on being touched or irritated, was able to walk with some rapidity. The fish was in length about four to five inches, an inch thick at the shoulder, and in depth about one inch and a half, including dorsal fin, as sharp as a knife, standing up fully one-half inch. The attempt to extract the animal with forceps, if such had been at hand, would have failed, and in all probability would have caused serious injury, owing to the sharp dorsal fin, which, when erected to its full extent, inclines towards the tail of the animal; the pectoral fins also inclining in the same direction. It was, therefore, decided to use the probang, as the only alternative, and if possible push the animal into the stomach. Owing to the pain and spasm induced, a first attempt failed. On a second attempt the fish was dislodged, and I passed the probang fairly into the stomach, with but slight obstruction to the instrument. The patient shortly afterwards left the hospital, able to walk without the assistance of his friends, and relieved of all his distressing symptoms, and beyond some pain on deglutition for some days afterwards, has since experienced no inconvenience.

ART. 177.—*A Case of Stricture of the Œsophagus after Swallowing Caustic Potash.*

By JONATHAN HUTCHINSON, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

The case recorded is that of a lady who drank, by accident, some fluid in a tumbler, and which, although resembling porter in colour, was, in fact, a substance consisting chiefly of caustic potash in a state of deliquescence, and used by distillers. The lady's husband also tasted some of the fluid, and, finding it to be very caustic, supposed it to be sulphuric acid; and the medical attendant who was called in being informed that sulphuric acid had been swallowed, administered magnesia and milk, of course without much benefit. The lady and her husband both suffered from soreness of the mouth and throat for some days afterwards, but in three weeks they were very much better, and the husband entirely recovered, but in the lady the symptoms of a contracting stricture of the œsophagus were gradually developed. She was unable to swallow anything except the thinnest fluids, and only in very small quantities. Bougies were employed, and two strictures were encountered—the first being passed, but the other being impassable. When Mr. Hutchinson was called to see the patient, she appeared to be rapidly sinking, and could swallow nothing. He again tried bougies of various sizes, after the lady had been placed under the influence of chloroform; but although the upper stricture was easily passed, the lower one was impassable even by a No. 8 catheter. Under these circumstances, and under the impression that the patient would inevitably sink unless some decided steps were taken for her relief, Mr. Hutchinson proposed the operation of gastrotomy, to which proceeding assent was readily given, and the next day was fixed for its performance. Fortunately, however, the lady became so much better in the interval that the operation was delayed; and during the succeeding week she continued to improve in the capacity for swallowing, and took daily fair quantities of food. As time advanced, her condition still continued to improve, and, without any use of bougies, she took fluid nutriment perfectly well.

A year after the proposal of the operation, the lady was in better health than she had enjoyed for many years, although she still suffered from the stricture, and she could swallow solids only when carefully minced. She had also gained two stone in weight. Mr. Hutchinson candidly observes that this lady had a very narrow escape from a very dangerous operation, although he contends that its recommendation was fully warranted by the prevailing rules of surgery. He states that the case made so great an impression on his own mind that he cannot conceive any circumstances which could in future induce him to abandon the bougie and resort to gastrotomy. He also takes occasion to observe that there are several other surgical procedures of a very dangerous nature which are sometimes resorted to with fatal consequences, and which might advantageously be omitted, not only without danger to the patient, but probably to his great advantage, and the saving of life.

ART. 178.—*Treatment of Torticollis, or Wry-neck.*

By BERNARD E. BRODHURST, F.R.C.S., Lecturer on Orthopædic Surgery at the Hospital.

(*The Lancet*, June 19.)

When discovered and treated at an early period, the author writes, mechanical means may be sufficient to overcome such distortion as is occasioned by slight muscular retraction. It is, however, rare that extension can be so effectively and continuously employed as to overcome and remove even slight deformity which depends on muscular retraction. And, rather than lose much time in futile attempts at extension, it is preferable to proceed to the subcutaneous section of the tendons of the retracted muscles; it is sometimes alone necessary to divide the clavicular insertion. Sometimes the sternal attachment of the muscle alone requires division. For the most part, however, both the sternal and the clavicular insertions of the muscle should be divided.

When it is required to divide both the sternal and the clavicular portions of the muscle, separate punctures should be made, so that the blade of the knife may be kept closely in contact with each portion of tendon. The punctures may be made most conveniently about one inch above the clavicle, and the knife being carried well behind each portion of the tendon in succession, the tendon will be divided on turning the edge of the knife towards it, and using it with a cutting motion, at the same time that the head is so held as to make the muscle tense. It is seldom necessary to divide other structures than the two portions of the muscle now indicated, except it be, perhaps, a band or two of fascia; for other contracted structures will probably yield to mechanical extension after the greater obstruction caused by the retracted sternomastoid muscle has thus been removed.

After the operation, the head is to be supported in such a manner that the chin inclines towards the breast; so that the little wounds may readily heal, and reunion of the divided tendon may take place. Then, on the fourth or fifth day, extension, with a suitable instrument, may commence, and be carried on gradually, until the head is raised into its normal position; and, indeed, extension should proceed so far that power may be obtained to move the chin equally to one side or the other.

So soon as the position of the head is restored, care must be taken to remove the spinal curves.

(B) CONCERNING THE TRUNK.

ART. 179.—*Case of Hydatid Tumour of the Abdomen Simulating Ovarian Disease, treated successfully by operation; with Remarks.*

By THOMAS BRYANT, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.)

The subject of this case was a lady aged thirty-five, married, but without family, and the tumour was as yet thought to be ovarian, but

on careful examination being made with a view to operation a suspicion was raised that it might be of a hydatid nature. An incision was therefore made about two inches long in the median line of the abdomen, midway between the umbilicus and pubes, and a large hydatid cyst was eventually opened, and the contents discharged.

ART. 180.—*A Case of Ovariectomy in a Child; with Remarks.*

By THOMAS BRYANT, F.R.C.S., Assistant-Surgeon, Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv., and *British and Foreign Med.-Chir. Review*, October.)

The patient was a girl, aged fourteen, who had never menstruated, and the operation was quite successful. Mr. Bryant is not aware of any other instance of a similar kind having been recorded in which the disease was developed to such an extent in so young a subject, and before the ovaries had commenced their active life; and the character of the tumour was another point worthy of remark, for it was more like the chronic ovarian tumour found in the middle-aged than any of the acute kind. The rapid recovery of the patient was also remarkable, for the convalescence was steady from the first, and was marked by an almost entire absence of pain.

ART. 181.—*Cases Illustrating the Treatment of Suppurating Ovarian Cysts, and some points connected with Ovariectomy.*

By THOMAS BRYANT, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Two cases are here recorded of disease in which the cysts suppurated, the pus was discharged, and the patients did well. In one case ovariectomy was not performed, or even contemplated, but free incisions were made for the escape of the matter; in the other case, ovariectomy was attempted (though not by Mr. Bryant), but abandoned after the first incisions. The effect of the operation, however, was to discharge a large quantity of fluid, and the patient unexpectedly recovered. The result of both cases proves that much may be done even for patients who are sinking from the irritation of a suppurating and degenerating ovarian cyst, the best plan being to lay open the cyst, evacuate its contents, and wash out the cavity. Mr. Bryant records two other cases, one of which relates to the treatment of the peduncle in ovariectomy, and the other is an instance of menstruation from the peduncle of an ovarian tumour. With reference to the treatment of the peduncle after ovariectomy, Mr. Bryant thinks that the practice of dropping into the peritoneal cavity the end of the divided peduncle with the ligatures cut off close, is not free from special risks, and that some simpler or better plan for treating the peduncle should be sought for, although he is not yet prepared to decide what that plan may be.

ART. 182.—*On Treatment of the Pedicle after Ovariectomy.*

By C. F. MAUNDER, Surgeon to the London Hospital, and to the Ward for Ovariectomy in Queen Adelaide's Dispensary.

(*Medical Times and Gazette*, October 9.)

The chief point to be considered in dealing with the pedicle is the prevention of hæmorrhage, and, in so dealing, to use the means the most simple, provided only it be effectual. The most simple means is that which taxes the power of repairing an injury in the least degree; and if a surgeon had courage he might resort to *torsion*, retaining or not the cut pedicle at the wound. There is this objection to torsion, that when the patient rallies from the depressing effect of the operation some vessel or vessels previously unobserved may bleed. A similar objection applies to sealing the end of the pedicle with the hot iron and dropping it back into the pelvis; the eschar may become detached, and fatal hæmorrhage ensue.

Mr. Maunder is thus left to choose between securing the pedicle with a ligature and dropping it back into the abdomen, or retaining it at the wound secured by clamp or ligature. In the first instance a foreign body is left in the abdomen, and this contrary to general principles, and possibly a source of fatal irritation; while in the latter case the stump is repaired outside the belly, and probably with the least risk to the patient.

While, then, Mr. Maunder advocates, as a rule of practice, keeping the pedicle outside the belly, exceptions will occasionally arise. But, as in every other instance in which an operation is contemplated, our great aim should be to endeavour to discover those signs and symptoms which may lead us to predict a favourable or an unfavourable result, Mr. Maunder believes any special way of treating the ovarian pedicle, beyond the object of preventing hæmorrhage, to be a matter of comparatively little moment, and that it will not affect the rate of mortality to a noticeable degree. At present the secret either of success or of death seems to lie in the general condition of the patient.

ART. 183.—*A Case of Multilocular Cyst of the Left Ovary Complicated by Ascites, Umbilical Hernia, and Prolapse of the Uterus; Ovariectomy; Recovery.**

By M. BOINET.

(*Gazette Hebdomadaire*, No. 48, 1868.)

The subject of this case was forty-seven years of age, and had menstruated regularly up to the age of forty-six years. She had had general good health. Four years previously before the operation, which was performed by M. Boinet on October 11, 1868, her abdomen commenced

* Communicated to the Société Impériale de Chirurgie.

to swell; on September 7, 1865, she was punctured, and exit was given to between six and seven litres of fluid. The fluid, however, was rapidly reproduced, and the patient reached Paris on July 6, 1868, in a deplorable condition, being feeble, emaciated, and with respiration much impeded. The abdomen, at the level of the umbilicus, which was the seat of a large hernia, measured 142 centimetres in circumference; and from the xyphoid appendage to the pubis, 45 centimetres. The umbilical hernia, which contained ascitic fluid and loops of intestine was very voluminous, measuring 40 centimetres in circumference. The abdominal walls and the lower limbs were infiltrated. The abdomen contained much ascitic fluid. In the abdominal cavity could be made out two superior solid tumours, and a median inferior tumour which seemed to be a sac containing fluid. Finally, there was complete prolapse of the uterus. The only chance of recovery was in ovariectomy, but the probable existence of adhesions, and the numerous complications accompanying the cyst of the ovary, seemed to present contra-indications. The operation was finally decided upon at the urgent request of the patient.

The patient having been placed under the influence of chloroform, an incision about 12 centimetres in length was made through the linea alba down to the peritoneum. A puncture was then made, and exit given to between four and five litres of ascitic fluid. The divided vessels were then closed by serous fluid, and the peritoneum divided by scissors. M. Boinet then introduced his hand into the abdominal cavity, and found that there were two solid tumours and a cyst filled with fluid. The solid tumours being very large, the incision was carried upwards, and enlarged to the extent of 27 centimetres; the knife was carried to the left of the umbilical hernia. The cyst was then punctured, and from seven to eight litres of a greenish serous fluid removed. It was then made out that the whole mass was fixed merely by a very long and very thick pedicle. A clamp was then applied, above which the pedicle was cut through with scissors, the raw surface being touched with the actual cautery. In consequence of the considerable size of the vessels of the pedicle a strong ligature was applied below the clamp. Thanks to the *serre-fines* not a single drop of blood fell on the peritoneum. Several shreds of false membrane of a purely white colour were found floating in the ascitic fluid. The surface of the peritoneum was of a dark red colour, and the epiploic vessels were engorged with black blood. The pedicle was next tied at the inferior angle of the wound by a long needle, which was made to traverse both it and the margins of the abdominal wound; the clamp was then removed, and two needles, traversing the abdominal wall, were placed above and below the pedicle in order to compress it by a twisted suture. An evacuating tube was then left in the pelvis for 24 hours, in order to favour the discharge of a few grammes of a slightly sanguinolent fluid.

The results of the operation were most happy. The abdomen remained flat and free from tenderness. On the eighth day the pins and ligatures were removed and replaced by small bandages saturated with collodion. The patient ultimately recovered, and was relieved of the ovarian cyst, of the umbilical hernia, of the complete prolapse of the uterus, and of considerable ascites.

The removed mass, including the fluid contents, weighed between 17

and 18 kilogrammes. The two solid tumours contained in their interior numerous small cavities filled with gelatinous and purulent material, and not communicating with each other.

ART. 184.—*On Rupture of the Ureter.*

By ALFRED POLAND, F.R.C.S., Surgeon to Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Rupture of the ureter is an injury of great rarity; but the late Mr. Stanley has recorded two cases of the kind in one of the volumes of the "Medico-Chirurgical Transactions," and Mr. Poland now publishes another, which presented, moreover, some remarkable and unusual complications. The patient was a woman, aged twenty-three, who was in the fifth month of pregnancy, and who sustained a severe injury by a fall when getting out of a railway carriage. There was a wound above the umbilicus, the urine was not passed, there was a vomiting, premature labour came on, and terminated in the delivery of a still-born foetus, and death resulted in 135 hours after the accident. The post-mortem examination showed that the external wound led into a hernial space in the subcutaneous tissue on the outside of the rectus muscle and its sheath, but in the sac were coils of small intestine. The spines of the lumbar vertebræ were broken off; two of the ribs were broken, and the transverse processes of the three upper lumbar vertebræ were also broken off. The right ureter was torn quite across, just below the pelvis of the kidney, and the left kidney had its vessels blocked up with ante-mortem clots. The rupture of the muscles was apparently caused by the extreme tension of the muscular fibres at the moment of the accident, and the rupture of the ureter by the rolling of the lady, when in an erect position, between the step of the railway carriage and the platform. The symptoms of the lesion were, as they must be in such cases, very obscure and unsatisfactory.

ART. 185.—*Stricture of the Urethra; Breaking of a Bougie in the Urethra; Perineal Section, and Median Operation as for Stone, with Extraction of Bougie from the Bladder.*

By ERSKINE MASON, M.D., Demonstrator of Anatomy in the College of Physicians and Surgeons, New York; Surgeon to the Charity Hospital, New York, &c.

(*American Journal of the Medical Sciences*, October.)

The following case appears worthy of publication, as illustrating an accident which occasionally occurs in operations about the urethra, and the readiness with which the greater portion of a bougie was removed through the median or Allarton's section for stone:—

E. C., aged fifty-two, labourer, was admitted into Charity Hospital June 3rd, 1869, suffering from stricture of the urethra. His history in brief was that of a traumatic stricture, resulting from an injury received in the peri-

neum, five years ago, while in the army. For the past two years he states he has been able to void urine either by a very small stream or in drops only; the latter mode being the only way in which his bladder was relieved at time of admission. His physical condition was wretched, and he complained of an almost constant pain in the lumbar region, want of appetite, and frequent vomiting; which, together with extremely frequent calls to empty the bladder, were fast wearing him out. The urine, upon examination, revealed albumen, a few granular casts, triple phosphates, pus-corpuscles in abundance, together with cystic epithelium. After some days of general treatment, the urethra, which before was so irritable that it was hardly possible to attempt the introduction of bougies, on account of the intense pain which they caused, abated in a measure, so that I was able to pass a filiform instrument through the stricture into the bladder. This method of gradual dilatation was practised until the 21st of June, when I succeeded in passing a No. 3 bougie (French scale) through the stricture, which was situated in the subpubic curvature. Deeming the condition of the patient not such as to warrant the operation of perineal section, I proceeded to divide the stricture with Gouley's modification of Maisonneuve's urethrotome. The patient was accordingly etherized, and the instrument passed over the bougie as the guide. Just as the knife reached the stricture, the bougie (which was of English make) was discovered to have broken. This accident was due either to some flaw in the manufacture of the bougie (which was a new one), or else it had been cut with the knife—which of the two, from an examination of the ruptured bougie, I am unable to state positively, though inclined to the belief that the bougie in some manner became bent in front of the stricture, and was thus divided by the blade of the instrument. Upon removing the anterior portion of the bougie the disagreeable fact became manifest that nearly eight inches of the bougie remained behind, either in the urethra, bladder, or both. I at once passed down the urethra a long thin pair of forceps, with the hope that, perchance, the end of the bougie might be seized, and in this way removed, but without success. Perineal section was accordingly performed, and the stricture, which involved not only the bulbous but a portion of the membranous urethra, was freely divided. No sign of the bougie being discovered in the urethra, I introduced my little finger into the wound in the perineum, and proceeded, as in the median operation, to dilate the urethra and enter the bladder. This being accomplished with the greatest ease, I was pleased to feel the bougie, which was lying crosswise in a thickened and contracted bladder. Seizing it with my little finger in this position was an easy matter, and the bougie was readily withdrawn. The case was treated in the same manner as is usual in cases of section in this hospital, no instrument being left in the bladder, but a full-sized catheter introduced once or twice a day, as the case may be, to draw off the urine. No unpleasant symptom occurred to retard a speedy recovery from the operation, and relief from all his previous symptoms. The following note of the case I transcribe from the hospital records:—

“July 8. He complains of pain in the epigastrium, where there can be seen a pulsation, marked dullness on percussion over a circumscribed space about two and a half inches in diameter. Auscultation reveals a murmur heard with maximum of intensity just to right of the median line. Diagnosis, aortic aneurism. July 20, was transferred to the medical wards. July 23. Patient left the hospital to-day, being unwilling to remain longer, having been relieved from the trouble for which he sought admission.”

This case appears to go far towards showing the ease with which the median operation can be performed, and how well it is adapted for just

such cases as this. There was no subsequent dribbling of urine, as there would have been had either the lateral or bilateral operation been performed; the patient was spared the dangers arising from the urine flowing over a wounded and inflamed prostate, not to refer to the danger in his condition from hæmorrhage, he having perfect control over the bladder. Indeed, had any other operation been resorted to than the one adopted, Dr. Mason feels sure that the final result would have been less happy, both to the patient as well as to the operator. In this case the patient was suffering at the time of operation from prostatitis, the prostate being considerably enlarged, and extremely painful, upon examination through the rectum.

ART. 186.—*Case of Spina Bifida Successfully Treated by Ligature.*

By EDWARD SIDEBOTTOM, M.R.C.S. & L.R.C.P.

(*British Medical Journal*, September 25.)

Mr. Sidebottom was summoned on the 8th September, 1866, to attend a patient in her third confinement, who, after a long and tedious labour, was delivered of a fine, full-grown male child, about the usual size and weight, apparently healthy and strong. It was soon discovered that the infant was suffering from bifid spine in the lumbar region, the tumour being about the size of an orange, tense, fluctuating, and of a pale-purple colour.

Mr. Sidebottom made known to the parents the danger attending such cases, and suggested that he might have resort to some operation for the removal of the tumour, or try ligature. Two days after its birth he placed a ligature of silk thread round the neck of the tumour, tightening the ligature only slightly. The following day he passed another (also of silk thread) without removing the first. This appeared to produce a good deal of irritation, causing several clonic convulsive attacks for several hours during the day, but which passed off in the evening. The next day he passed a third ligature (silk thread), not disturbing the two former ones, and using more constriction—still without causing more convulsions, but leaving the child fretful. The three ligatures were all kept on until the tumour sloughed off, which did not happen for three weeks, leaving only a very small wound, over which Mr. Sidebottom applied a piece of dry lint, using gentle pressure. In three days the wound had perfectly healed, leaving the child's lower extremities partially paralysed. After a few days cold water was applied by means of a sponge along the whole course of the spine, daily, with marked benefit, the paralysis disappearing by the end of three months.

ART. 187.—*On Splenic Tumours.*

By C. HILTON FAGGE, M.D., M.R.C.P.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

In this interesting paper Dr. Fagge describes several cases of enlarged spleen, where the tumour not only occupied the left side, but extended

into the iliac and hypogastric regions. In some instances the swelling nearly filled the whole abdomen. The chief clinical interest in these tumours, and that to which Dr. Fagge was the first to direct attention, was in reference to the possibility of mistaking an enlarged spleen for an ovarian tumour. The sharp outline presented by the tumour, and the notch or notches in it, ought at once to suggest that it is the spleen; and if any doubt should remain, it may at once be dispelled by a microscopic examination of the blood; for a considerable enlargement of the spleen never occurs without an increase in the white corpuscles.

ART. 188.—*Fusiform and Tubular Aneurism of the Sub-clavian Artery, and its Treatment by Compression.**

By ALFRED POLAND, F.R.C.S., Surgeon to Guy's Hospital.

(*Medical Times and Gazette*, August 28.)

The main object of this communication was to offer some remarks upon subclavial aneurism and wounds and lesions of the subclavian artery, as suggested by an interesting case coming under the author's notice and care at Guy's Hospital. The patient was a man, aged forty-four, a bricklayer's labourer, who was admitted into Guy's Hospital on October 7th, 1868. He had formerly been employed in the gas works, and latterly had been in the habit of carrying a hod of bricks upon his shoulder. For the last two years he had suffered from occasional pain in the right arm, which gradually increased. He attributed this to an injury to the fingers which he had received about that time. During the last month the pain had become so severe that he was forced to give up work. On applying for advice to Dr. David Johnson, of the Old Kent-road, there was discovered for the first time a pulsating tumour above the right clavicle. It was considered to be aneurismal, and the patient was recommended to apply for admission into the Hospital. The patient, on admission, appeared to be fairly nourished, although naturally thin, and his general health was good. His expression was somewhat anxious. In the supra-clavicular region of the right side there was a pulsating tumour, fusiform in shape, passing downwards and outwards, and meeting the clavicle at an angle of forty-five degrees. It was more than one inch in length, and nearly half an inch in breadth at the widest part, and was very much like a large filbert. Above, it diminished gradually to the size of a large goose quill, and after remaining for a quarter of an inch of that size it seemed to curve downwards and inwards, becoming lost under the muscles. The lower or distal end did not seem to diminish so rapidly, and the pulsations of the artery could be felt between the tumour and the clavicle, as also very distinctly below that bone. The tumour was almost subcutaneous, and the pulsations in it very strong; and the expansion, which was uniform, was considerable during each beat. By pressure on the artery above

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, held June 8.

the tumour, the pulsation in the latter was readily stopped, and the swelling became quite soft and flaccid, and easily emptied, so that it almost entirely disappeared. No pulsation could be felt in the radial or ulnar arteries, nor in any artery of the right arm as far up as the axillary to within a short distance below the clavicle. There was no other tumour or swelling in any part of the course of the vessels, and the axilla was quite free from any induration or globular enlargement. The right arm was weak, but he could perform easy motion with it. The circumference of the limb, both over the biceps and in the forearm, was less than that of the opposite side. There was also evidence of deficient nutrition in the nails of the fingers of the right hand, which were ill-developed and desquamating. He complained of pain down the radial border of the forearm and in the index finger, and occasionally this pain extended upwards to the acromial process. There was numbness in the fingers and hand generally, but there did not seem to be any impairment of actual sensation. The arm was always cold, and had to be wrapped up in flannels. There was no œdema, and no obstruction in the venous system. It was found that in consequence of the high position of the first rib in the neck, and the comparatively superficial abnormal course of the artery, pressure on the vessel could be made without trouble and without causing pain. Consequently it was agreed to make digital pressure on the cardiac side of the tumour, in the hope of effecting a cure. This was accordingly carried out almost uninterruptedly for ninety-six hours, and then discontinued, in consequence of the discoloration and tenderness of the skin at the site of pressure, and unwillingness on the part of the patient to undergo any further treatment. The tumour, however, had become undoubtedly much smaller and harder, but still pulsated, although the pulsation could be controlled by the merest pressure. The man left the Hospital, and in the course of a month showed himself again, when the tumour had lost all pulsation, had become hard and somewhat smaller. This patient attended at Dr. Johnson's residence regularly for several months, and was carefully watched by him. The tumour gradually disappeared, and the whole trunk of the artery seemed converted into a fibrous cord; but there could be traced a very large artery running transversely across the posterior triangle of the neck immediately above the site of the former tumour. It seemed to emerge from under the sterno-mastoid muscle, and was lost under the trapezius. The author drew attention to the following conditions, and these were illustrated by references to cases and quotations from well-known writers on aneurism:—1. The remarkable deviation from the normal course of the right subclavian artery in the third part of its course; 2. The peculiar character of the aneurism, as being of the fusiform or tubular variety of aneurism, by dilatation, and where all the coats are uniformly distended; 3. The treatment adopted—viz., indirect digital compression on the cardiac side of the aneurism, leading to a successful issue. The paper is accompanied with the details of three unpublished cases of subclavian aneurism. 1. A case of subclavian aneurism cured by direct pressure, by Mr. F. M. Corner, Surgeon to the Poplar Hospital; 2. Notes of a case of subclavian aneurism for which amputation of the shoulder-joint was performed with success, by Professor Spence, of Edinburgh; 3. A case

of aneurism by dilatation of the subclavian artery, by Dr. Robert Adams, of Dublin, with some further notes on Mr. O'Reilly's case of ligature of the subclavian artery for subclavian aneurism. The paper concludes with an elaborate statistical analysis of 116 cases of subclavian aneurism, of which the following table gives a general summary of the cases. These are arranged according to the treatment pursued. The cases are placed under one heading only—viz., under the treatment last adopted, although many of them had previously been subjected to one of the other forms.

Summary of Cases according to Treatment.

	Successful.	Died.	Total.
Cases in which no particular treatment was adopted, and specimens undescribed, and not having been the subject of any operation	3 cases 4 unknown	24 deaths 5 specimens	36
Medical and Valsalva treatment	7	4	11
Hypodermic injection	1 relieved	...	1
Compression	4	...	4
Injection into sac	1	2	3
Acupressure	1	1
Manipulation	2	2	4
Galvano-puncture	1	...	1
Attempt at operation	1	6	7
Ligature of third portion of subclavian	6	10	16
Ligature of first portion	9	9
Ligature of carotid	1	1
Ligature of innominate	12	12
Ligature of innominate, and carotid, and vertebral	1	...	1
Ligature of first portion of subclavian and carotid	2	2
Ligature of subclavian, carotid, and vertebral	1	1
Distal or Brasdor's operation, ligature of axillary	4	4
Amputation at shoulder-joint	1	...	1
Total	33	83	116

ART. 189.—*On the Differential Diagnosis of Abdominal Aneurism.*

By W. MOORE, M.D.

(*Dublin Quarterly Journal*, August.)

Dr. W. Moore relates a case of abdominal aneurism, of which the following are the leading points:—J. L—, admitted into Sir P. Dunn's Hospital on December 31st, 1868, complained of pain in the back. Three years before had fallen into the hold of a ship, and shortly after the pain in the back commenced. On admission he was pale and

spanæmic, but his general health was good; sight, speech, and hearing unimpaired, but the voice was low and subdued; respiration regular, temperature normal, urine healthy. His one complaint was of severe pain about the last dorsal vertebræ, which at times radiated under the floating ribs on the left side. A pulsation, eccentric, equable, and persistent in all positions was visible in the epigastrium; over its seat there was dulness on percussion, and a systolic bruit, only audible, however, when the patient was in the recumbent position. The pulsation in the iliacs was feeble, but equal; there was increased cardiac dulness, and a peculiar diastolic click supplanted the second sound. Visible pulsation in the radials. There was no appreciable dulness or visible pulsation along the spine. "On examining him with the stethoscope from the nape of the neck downwards, no abnormal sounds could be heard until we came down to the *last dorsal vertebra*, when a *well-marked bruit became audible* (particularly to the left of the spine), which became louder as we descended for about two inches, when it 'shaded off,' and was lost about the fourth lumbar vertebra." The area of the bruit was about five inches. The patient died suddenly. At the post-mortem the heart was hypertrophied, but the valves perfect. There was atheromatous deposit in, but no dilatation of, the thoracic aorta. Immediately opposite the giving off of the celiac axis, an aneurism was found, about the size of a small apple, fitting into the left vertebral hollow, and lying on the upper lumbar vertebræ, the bodies of which were eroded. The aorta was narrowed for about half an inch below the aneurism; the right renal artery was obliterated, and the right kidney was diminished in size.

In reference to the epigastric pulsation, the author observed that too much stress is laid on the "expansive character" of the pulsation. He considers that "persistency and equability," after a careful examination in all positions, are the most characteristic features of abdominal aneurismal pulsation. With regard to the stethoscopic signs, he notices that "systolic murmur can be heard over the aorta *in front* in cases where tumours overlie the vessel; this diminishes the value of the diagnostic sign. But if we place the patient in the *prone* position, and examine him along the spine, in the great majority of cases of aneurism a 'bruit' will be heard (as in the case detailed) along the spine, especially to the left side." In the case of an abdominal tumour, with the patient in the *prone* position, no such "bruit" will be heard, inasmuch as no pressure is exerted on the vessel from the tumour falling forward. Thus, in a "*localized bruit, heard along the course of the spine*," we have one, if not the most valuable, physical sign of abdominal aneurism we are as yet possessed of. In the case of aortic obstruction, where a bruit may be propagated along the spine, it will be heard *continuously* from the base of the heart along the aorta. *Continuity* would also be the characteristic of a spanæmic murmur. In the case of aneurism the *bruit* is localized. The author relates another case, in which temporary attacks of dry barking and spasmodic cough, dyspnœa, and aphonia, occurred in the course of abdominal aneurism, which had its seat high up between the pillars of the diaphragm. He had no opportunity of examining the patient with the stethoscope, and the post-mortem examination was imperfect; but he suggests that the thoracic symptoms were the result

of pressure by the aneurism on the semilunar ganglia of the solar plexus, which would influence the larynx through the pneumogastric and recurrent laryngeal nerves.

ART. 190.—*On Wounds of the Heart and Pericardium.*

By Dr. GEORGE FISCHER.

(*Archiv für klinische Chirurgie*, Bd. ix., hft. 3; *Archives Générales de Médecine*, No. 5.)

Dr. George Fischer has published, under the above title, a complete sketch of penetrating wounds of the chest, involving the heart and its membranes. Cases to the number of 452, collected from all quarters, serve as the basis of this very interesting article. Of these cases, 401 relate to wounds of the heart, and 51 to wounds of the pericardium. With regard to the etiological view, the author establishes the following division:—

Wounds from pointed instruments	44
Wounds from pointed and cutting instruments	260
Wounds from fire-arms	72
Injuries from crushing	7
Rupture of the heart	69

The author then takes, one by one, all the symptoms which may be met with after wounds of the heart.

The *external wound* presents nothing remarkable in its aspect, its form, or its direction: it may be bleeding or obliterated by a clot. Sometimes it permits a more or less free access of external air at the moment of inspiration; at other times the obliquity of the tract prevents the introduction of air. This latter condition favours the occurrence of emphysema. With consecutive pleurisy or pericarditis, the wound gives exit to sanguinolent serosity, the abundance of which varies according to the cases.

The *hæmorrhage* varies very much, and naturally depends upon the size of the instrument which has produced the wound, and upon the nature of the parts injured. In some cases hæmorrhage is rapidly fatal, although the wound may not be of any considerable extent. In other patients not the least flow of blood is observed, because either the wound is very small and very oblique, or the fibres of the heart, in contracting, tend to approximate the margins of the orifice, and thus favour the formation of an obliterating clot. This clot may be ruptured at the end of a few days, and death be thus rapidly produced.

In one case, in which the aorta was found traversed by a pin, only a single small drop of blood was discovered on the chemise of the wounded person.

The blood in some cases is scarlet, in others red: its flow is either continuous, or isochronous with the beatings of the heart. Hæmoptysis is sometimes observed, and is then due to a wound of the lung.

Syncope is a frequent symptom in wounds of the heart: it may occur at the moment of the wound, some seconds after the accident, or, again, not until the end of a few days. In eighty-seven cases in

which the loss of consciousness was stated, syncope occurred thirty times at the moment of the accident, thirty-eight times after a few seconds, and nineteen times in the course of the subsequent treatment.

Pain.—What part is taken by the cardiac wound itself in the pain felt by the patient? Whilst Harvey, Ollenroth, and Bamberger maintain that the heart is quite insensible, Lapeyronie and Reiche affirm from observation that the tissue of the heart cannot be touched without giving rise to fearful pains. Fischer agrees with Boyer that the absence of pain is a diagnostic sign of great importance and value. According to Boyer's views, wounds of the heart are but slightly, if at all, painful, and the suffering complained of in a small number of cases at the time of the injury should be referred to a lesion of the pericardium.

Fever is generally merely consecutive, and is then rarely announced by rigors. A violent fever, accompanied by dyspnœa and oppression, and which does not come until after a few days, generally indicates secondary hæmorrhage.

The *beatings of the heart* are reduced in force, and become more difficult to make out: this symptom is due either to the general condition of the patient or to effusion within the pericardium. Sometimes intermissions are observed. This immediate depression is generally succeeded, in the course of a varying period, by violent palpitations of the heart, which may last for a long time, in some instances for several years.

Auscultation and *percussion* of the cardiac region furnish the most varying results: the heart sounds are sometimes normal, often obscure and remote, and in a few cases entirely lost.

A *fremissement* analogous to that observed in cases of arteriovenous aneurism, is considered by Ferrus and Jobert as a constant and pathognomonic sign of wounds of the heart. Steifengand, Feine, and some other authors have described a peculiar whining sound,—*bruit de branlement*. Others speak of sawing, rasping, gurgling, and hydraulic sounds. It may be said, briefly, that every possible abnormal bruit has been heard after wounds of the heart; the most frequent of these being a *bruit de souffle* isochronous with the systole. Those bruits, according to Fischer, depend upon the following anatomical lesions: pericardiac effusions, vascular changes, and communication of the ventricles. They may be also produced when a foreign body remains in the heart, when fluid or air exists in the pericardium; or again they may occur under the influence of the anæmic condition into which the patient has been thrown by the loss of blood. There is no abnormal bruit which is pathognomonic of wounds of the heart; in some cases no morbid changes in the heart sounds can be made out.

The *pulse* is generally from the commencement small, frequent, irregular, and intermittent. Sometimes it presents on the two sides of the body differences which present after recovery.

The state of the *respiration* was mentioned in 70 cases only. In 7 it remained normal. The movements of breathing were generally painful; in many cases there was intense dyspnœa which threatened every minute the life of the patient. The causes of this dyspnœa are compression of the heart by effusion of blood into the pericardium and pleura; con-

secutive pericarditis, pleurisy, and pneumonia; mediastinal suppuration; pulmonary, præcordial, and pleural adhesions.

The expression of face, the præcordial anxiety, the cough, and the gastric disturbances vary, and present no interesting point for notice.

The nervous phenomena vary in their nature: delirium does not generally occur except at the approach of death. In some cases, however, it lasts for several days without being necessarily a serious prognostic. Hæmorrhage from wounds of the heart is frequently followed by convulsions of the muscles of the eyeball, mouth, and jaw, either isolated or generalized, and constituting in the latter case a risus sardonicus. Convulsions of the thoracic and abdominal muscles have been likewise observed, and also paralyzes both of movement and sensation. In some cases of partial paralysis clots were found in the principal arteries supplying the paralysed limbs.

The various symptoms just enumerated do not present themselves with intensity at the moment of the injury, and a great number of patients have been able, after the wound, to proceed for a more or less considerable distance. When symptoms do not appear until after some days, one is justified in admitting that the wound has been converted secondarily into a penetrating one.

The intensity of the primary symptoms does not furnish any special prognostic indications. A certain number of patients die without having presented any marked symptom; others, on the contrary, fall immediately into a state of collapse; after this period has been favourably passed over, the patient has, according to Fischer, a great chance of recovery.

The principal complications of wounds of the heart are: pericarditis, carditis, pleurisy, empyema, pneumonia, bronchitis, hectic fever, erysipelas, gangrene (after embolism), cerebral hæmorrhage, meningitis, and paralysis.

The following sequelæ may be presented after cure of wounds of the heart: contractions and incompetencies of the cardiac orifices, hypertrophy or atrophy of the heart, aneurisms of various kinds, palpitations, &c.

With regard to the gravity of wounds of the heart, the statistics of the 452 cases collected by Fischer give the following results:—

Immediate death . . .	104
Consecutive death . . .	219
Recovery . . .	72
Termination unknown . . .	57

The causes of immediate death are: a great extent of injury, hæmorrhage, cerebral anæmia, compression of the heart by effusion within the pericardium, &c.

The causes of secondary death are: hæmorrhage, formation of clots within the heart, inflammations of various forms, hectic fever, &c.

Of the 72 cases of recovery, 60 related to wounds of the heart, and 22 to wounds of the pericardium.

In 30 instances the existence of a wound of the heart was revealed by consecutive autopsy, and in 36 also the diagnosis was established only from the symptoms presented by the patient.

ART. 191.—*Cases of Inguinal Hernia; Operations for the Radical Cure; Results.*

Under the care of Mr. JOHN D. HILL, at the Royal Free Hospital.

(*The Lancet*, August 7.)

Occlusion of the inguinal canal is the object which is desired in every operation for the radical cure of an inguinal hernia, and however much surgeons may differ as to the *modus operandi*, this is the leading principle. In the respective contributions to this subject by Mr. John Wood, Professors Fayrer and Syme, MM. Bonnet, Watzer, and Gerdy, several most ingenious methods have been devised. It is therefore desirable, in a question of such practical importance, to record all cases which have been submitted to the curative process, in order that the kind of cases suitable for operation, and the relative merits and advantages of particular operations, may be made known.

The following notes are from Mr. Hill's case-book. The patients were severally operated upon after the methods which have been described by Mr. John Wood and M. Gerdy. The condition nine months and twelve months respectively after operation is given.

CASE 1.—Henry C—, aged twenty-three years, by occupation, a labourer, was admitted into the hospital June 8th, 1868.

History.—About three months previous to admission, while employed in lifting timber, he felt something suddenly give way in the right groin. This was followed by swelling and tenderness at the seat of injury; the latter, however, soon passed away, while the former continued to increase gradually, but always disappeared on his assuming the recumbent posture. Since the accident he had never been free from pinching pain in the bowels on attempting to lift even an ordinary weight; and at last, being quite disabled, he came to the hospital. He had never worn a truss.

Present condition.—A hernial tumour about the size of a walnut projects at the external abdominal ring, which can be reduced by gentle pressure. When the forefinger is passed into the inguinal canal, invaginating the scrotal coverings, the margin of the internal ring can be distinctly felt. This is stretched towards the mesian line, while the external ring is drawn outwards, and thus the obliquity of the canal is reduced. On measuring its capacity, the forefinger and tip of middle finger can be inserted within the external ring. The hernial sac apparently contains intestine.

Treatment and progress.—To-day (June 12th), after the bowels had been relieved by a purgative, Gerdy's operation was performed in the following manner:—The patient being in the recumbent posture, the right forefinger of the operator was passed into the inguinal canal, tucking up a sufficient quantity of the scrotum to prevent any tension or dragging upon the suspensory wire when inserted. He was then requested to cough sharply, and by the impulse thus communicated, the intestine was found well guarded by the finger. Next, a strong curved needle, armed with stout silver wire, was guided along the finger, and thrust through the invaginated scrotum, conjoined tendon, and inner pillar of ring, transfixing the integument an inch above Poupart's ligament. The needle, having been disengaged, was now attached to the lower end of the wire, and again guided along the finger through the invaginated scrotum, outer pillar of ring, and integu-

ment, appearing just above Poupart's ligament. The wire was now made tense, and retained so by an assistant, whilst a coil of strapping of the thickness of a No. 12 bougie was attached to either end, and rolled home. A pad and spica bandage completed the operation, after which he was removed to bed, and ordered twenty minims of tincture of opium.

June 13.—Complains of pain in the course of the inguino-cutaneous nerves. Ordered twenty minims of tincture of opium every four hours.

14.—Better. Pain subsided after the second dose of opium.

15.—There is considerable thickening in every direction around the wire (lymph deposit), and slight oozing of pus from the wire holes.

19.—Thickening is much increased; removed the wire; bowels relieved.

25.—Thickening lessened; wire holes healed.

30.—Invaginated scrotum seems pretty secure; no protrusion on coughing whilst standing upright, and but slight impulse.

July 15.—Occlusion of the inguinal canal is now very complete. On making traction upon the scrotum, the invaginated portion is firmly held in position by adhesions.

July 24.—Discharged, but instructed to wear a light truss on resuming laborious work.

June 30, 1869.—Invaginated scrotum remains intact. He follows a light occupation (messenger), and does not wear a truss except when called upon to lift.

CASE 2.—John B—, aged seventeen, a weakly, attenuated boy, was admitted into the hospital on the 19th of October, 1868.

History.—He has generally enjoyed pretty good health, although he was never capable of much hard work. Some time ago noticed a fulness in left groin; and about two months previous to admission, during a sharp attack of coughing, felt something give way there. This was soon afterwards followed by a swelling, which increased on lifting or otherwise exerting himself; and he became much troubled with pain and uneasiness in the belly. Had never worn a truss.

Present condition.—The abdominal walls are exceedingly thin, and there is a tendency to rupture an inch above the umbilicus, and in the right groin. In the left inguinal region is a hernial tumour, about the size of an egg, containing intestine. This can be easily returned. The obliquity of the canal is so considerably reduced that the inner half of the internal ring corresponds to the outer half of the external ring; and thus the hernia has become almost direct. This appears to arise rather from the yielding nature of the structures than from the application of any extraordinary amount of force. The ring margins are very thin and elastic, and the boundaries of the inguinal easily defined.

Treatment and progress.—The bowels having been previously relieved by an aperient, chloroform was administered on October 28th, and Mr. John Wood's operation performed as follows:—An incision about an inch in extent was carried through the skin of the scrotum over the fundus of the sac. The skin was next separated from the fascia, and the invagination of the latter carefully effected. A needle armed with strong silk was then passed through the invaginated fascia, conjoined tendon, and internal pillar of the ring; next through the fascia and external pillar; and, lastly, through the fascia, triangular aponeurosis, and internal pillar. Thus a loop and two ends were seen appearing externally at one aperture in the skin—the loop passing through the external, the ends through the internal pillar of the ring. The operation was completed by threading the lower end through the loop: and after drawing together the margin of the ring, so as to hug the cord, the

ends were tied together over a coil of strapping ; and, lastly, a pad and spica bandage were applied.

Oct. 28.—Complains of pain in the course of the inguino-cutaneous nerves. Ordered twenty minims of tincture of opium.

Nov. 1.—There is some thickening around the ligature, and slight oozing of pus along it ; is now free from all pain.

3.—Thickening is increased ; wound is nearly healed.

5.—Wound is healed ; ligature removed.

14.—While standing erect, no preternatural impulse is felt on coughing. Ordered to wear a pad and bandage.

20.—Cicatrix is firm, and all thickening has absorbed.

28.—Discharged sound.

Dec. 28.—Is now able to follow his employment without any support. Is, however, instructed to wear a light truss when lifting or doing heavy work.

On July 17th, 1869 (nine months after the operation), he attended at the hospital. There had been no return of the rupture ; indeed Mr. Hill says the inguinal canal seemed to offer more resistance on coughing than the muscular walls generally. The patient wears an elastic abdominal support, and occasionally (*i. e.*, before lifting weights) a light truss.

In these cases Mr. Hill carefully determined the following points previous to the operation : 1. The age, occupation, habits, and state of health of the patient. 2. The variety, condition, situation, and size of the hernial protrusion, with the course and dimensions of the canal. 3. Its cause, whether congenital, gradual, or sudden. 4. The amount of care which the patient could ensure after the operation. Both patients were young, healthy, and temperate, and they had a fair prospect before them as regards suitable employment for the future. In case 1 the simpler operation was selected because of the smaller size of the hernia, its recent date and sudden cause ; while in case 2 the more complicated operation was chosen because of the larger size of the tumour, the dilatability of the inguinal canal, and the more direct course of the hernia.

ART. 192.—*Can an Inguino-Scrotal Hernia be Reduced en masse?*

By JOHN COUPER, F.R.C.S.

(*London Hospital Reports*, vol. iv. ; and *British and Foreign Medico-Chir. Review*, July.)

To the question here proposed, an affirmative answer was generally given a few years since ; but it is now ascertained that in many cases, where a reduction *en masse* was supposed to have occurred, the hernia really passed into a sac situated in the parietes of the abdomen, while the internal strangulation still persisted. Mr. Couper relates a case in which a man who had long suffered from hernia, and wore a truss, reduced the rupture, but nevertheless still suffered from strangulation of the intestines. Mr. Couper performed an operation having for its object to divide the stricture ; but, in the first instance he opened only the intra-parietal sac, and consequently did not divide the stricture ;

but he subsequently discovered that the intra-parietal sac was shut off from the cavity of the abdomen, and having at last divided the stricture the strangulation was relieved. The man, however, died twenty-four hours after the second operation, and no post-mortem examination was allowed. The intra-parietal sac, in each case, appeared to be formed in the substance of the abdominal muscles.

ART. 193.—*Case of Traumatic Stricture.*

By CHRISTOPHER HEATH, F.R.C.S., Assistant-Surgeon to University College Hospital.

(*British Medical Journal*, July 17.)

In cases of traumatic stricture, complicated with fistula, Mr. Heath's experience is that, if the urethra is restored to its natural calibre, the fistulæ close spontaneously; but it is possible that severe cases might require a touch with a hot wire to make them heal up.

Case.—Mr. W. H., aged eighteen, a midshipman, in June 1867, fell off the wharf at Trincomalee, astride the gunwale of his boat, and ruptured his urethra. He was landed and put under the care of a naval surgeon, who unfortunately died of an apoplectic fit the same day. Being consequently neglected, he got extravasation of urine, and his life was only saved by the arrival, on the following day, of a military surgeon, who made free incisions into the distended scrotum. He eventually recovered, with a fistula of considerable size behind the scrotum. He was taught to pass a No. 8 silver catheter for himself, and continued to do so for a couple of months; but then, being on active duty, unfortunately discontinued the practice.

The patient came to Mr. Heath on May 14th, 1868, in good general health. There was a minute fistulous opening behind the scrotum; from which pus exuded, and considerable thickening about the urethra in the neighbourhood. He passed water in a very small and twisted stream, which was occasionally forked. The urethra was so sensitive that he could not bear me to pass an instrument, and could not pass a No. 3 silver catheter for himself.

On the following day, under the influence of chloroform, Mr. Heath succeeded in getting No. 4 silver catheter through a tight stricture, and then introduced Holt's dilator and split up the stricture to the full size, passing No. 12. The patient passed a little bloody water three hours after the operation, and nearly clear water in the evening. He had a good night without any sleeping draught.

The day after the operation, he was a little feverish, and had a slight rigor; and finding that he had had jungle fever in India, Mr. Heath put him on quinine, in two-grain doses, and he had no further trouble. He passed water quite comfortably.

On the third day after the operation, Mr. Heath passed a No. 10 silver catheter easily, and the patient went out for a walk. The day following, Nos. 11 and 12 were passed; and on the fifth day he passed No. 12 bougie olivaire with ease. A fortnight afterwards he was quite

well and able to pass his instrument satisfactorily; the fistula had closed. The advantage of the olivary bougie over the ordinary one is that it is slightly conical, and also that the bulb at its extremity enables it to pass readily along the urethra without catching in the wall. Mr. Heath has found them most convenient after Holt's operation.

ART. 194.—*Stricture of the Urethra : its Prevention, Early Detection, and best Method of Treatment.**

By W. F. TEEVAN, B.A., F.R.C.S.

(*British Medical Journal.*)

Mr. Teevan wished to draw attention to the importance of detecting stricture of the urethra in its earliest stage. The ideas as to the signs denoting the presence of stricture were vague. Mr. Teevan defined stricture to be "any diminution of the normal calibre of the urethra, the result of the contraction of organized lymph." The presence of a gleet, of six months' duration or more, might commonly be regarded as the outward and visible sign of the existence of a stricture which might, perhaps, in no way interfere with the flow of urine; and the actual presence of such stricture might be demonstrated by the *bougie à boule*. That instrument was invented by Sir C. Bell, and was by him made in metal. Leroy d'Etiolles improved its usefulness by making it of an elastic material, which allowed the instrument to follow the deviations of a tortuous and deformed urethra; its diagnostic value was still further enhanced by Dr. Henry Dick, who had the shoulder of the bougie made sharp and angular. The *bougie à boule* was simply for diagnosis. It would, as it was being withdrawn, catch at the slightest unevenness in the urethra, and told accurately the slightest change in the mucous membrane. That tissue, in its normal condition, transmitted through the bougie the sensation of travelling along a velvety path; and, if there were any constriction, not only would that fact be communicated to the surgeon, but also the degree of pathological change which the urethra had undergone. The *bougie à boule*, therefore, would detect stricture of the urethra in its earliest stage; and the treatment of such stage might correctly be termed the preventive treatment. When a patient went to a surgeon for a gleet, he ought always to be examined with the *bougie à boule*, for it was necessary to ascertain the pathological condition of the canal before an appropriate treatment could be decided on. If there were no constriction, deep injection was proper; but if there were contraction, however slight, it would be aggravated by injection, but cured by gradual dilatation. Mr. Teevan, after enunciating M. Mercier's views of the pathology of stricture, discussed the seats of stricture as deduced from facts observed by himself. He grouped together stricture at the bulb or membranous urethra, and called it "subpubic." This was by far the

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July 27, 28, 29, and 30, 1869.

most common kind of stricture, simply because the triangular ligament favoured its production. The next stricture in order of frequency was the "penile," situated at a spot varying from two and a half to three and a half inches from the meatus externus. This stricture was rarely absent, in some degree, when the other was present. The rarest form of stricture was that just within the meatus, the "orificial." Strictures, regarded in their physical conformation, were of two kinds—the "tunnel" stricture and the "ring" stricture. He called them so on account of the sensations communicated to the *bougie à boule* when passing through them. Subpubic strictures were generally of the tunnel kind; orificial strictures were of the ring character; and penile strictures partook of both forms. The measurement given of the length of the urethra varied from seven to eight or nine inches. He had found the average length to be $7\frac{1}{8}$ inches, as deduced by himself, from measuring the urethra of one hundred males. Regarding the treatment of stricture, he stated that, after witnessing the practice of various surgeons, and trying different methods, he had come to the conclusion that there was no treatment equal to that of gradual dilatation by means of the *bougie olivaire* and the piliform bougie, which treatment, he believed, he was the first to introduce into English hospital practice. Forceful dilatation was only applicable to the easier kinds of strictures; it was not devoid of danger; it caused an unknown lesion; it had to be always followed, and often preceded, by gradual dilatation, so that it could only be regarded as an occasional auxiliary in the treatment of stricture. Gradual dilatation was the safest treatment for the patient, for, out of one thousand recorded cases, there had not been one death; all the sufferers could be treated as out-patients, and no man need ever lose an hour's work during the treatment. The *bougie olivaire* glided in so easily that the patient was scarcely aware of its presence. It was necessary to pass an instrument about once in every three or four months, even after an apparent cure. Dilatation ought to be conducted up to the highest size that the urethra would take.

ART. 195.—*On the Action of Urine and Saliva on Tissues which are not protected by Epithelium.*

By Prof. G. SIMON.

(*Deutsche Klinik*, 15; *Schmidt's Jahrbücher*, No. 8.)

The dogma hitherto adhered to in surgery, that urine acts injuriously upon exposed tissues, prevents union by first intention, kills the tissues, and reacts upon them both in an acid condition and when it has undergone alkaline decomposition, has been controverted by Professor Simon, who was led to form other views on this point from the result of operations on the female urinary and generative organs. These views he has lately attempted to strengthen by experiments on animals.

In the first place, unmixed acid urine was injected subcutaneously in dogs; this was absorbed without causing the slightest bad effect. The same result attended similar experiments on men. Operation wounds

also, after they had been moistened with fresh urine, still healed by first intention. Urine mixed with mucus, and with mucus and pus, was injected on animals without any damage. In experiments with ammoniacal urine, filtered and unfiltered, abscesses were produced, the coverings of which sloughed, leaving slowly healing ulcers. From the results of these experiments it is concluded that small quantities of acid urine, either pure or mixed with pus and mucus, can be injected into unprotected tissues with impunity, whilst upon the same tissues alkaline urine acts injuriously.

Whilst, according to Billroth, urine is decomposed by the serum, or the fluid contained within subcutaneous connective tissue, and thereby is likely to set up gangrene, Professor Simon contends, from the results of experiments, which consisted in adding urine to dead organic tissues and fluids and mixing them together, that acid urine does not tend to rapid decomposition, and that even when mixed with a small quantity of dead organic matter, it does not undergo any alkaline decomposition before the fifth or sixth day, and in closed vessels is not decomposed before the tenth day. Thus it seems that acid urine, like a solution of salt, preserves organic tissues.

By further experiments by injecting dogs, Professor Simon convinced himself that even acid urine, in extensive contact with living organic tissues, and after prolonged stagnation in the subcutaneous connective tissue, does not undergo ammoniacal decomposition, and, moreover, that acid urine that has been in contact for a long time with dead organic material, or has stagnated for a long time in the subcutaneous connective tissue of a living animal, does not exert any hurtful influence upon living tissues.

With regard to the origin of the sloughing, which in men occurs rapidly, and to a great extent, after infiltration of acid urine, Professor Simon remarks that since, as may be concluded from his experiments, acid urine does not constitute the condition of this infiltrative sloughing, its cause must exist, not in the chemical, but in the mechanical action of the fluid, which is forced out among the tissues with great violence by means of the muscular bladder at the abdominal pressure. Through this the muscles are forcibly separated, the integument detached, and the nutritive vessels torn or compressed. Therefore must the gangrene arising from urinary infiltration be regarded as a result of pressure from within.

The importance of these views concerning the harmless action of acid urine upon exposed tissues, wounds, and cicatrices, is evident, and the influence of these altered opinions on those plastic operations which are sometimes performed on the urinary and generative parts is very considerable. The retention of the catheter, so frequently practised, may be avoided, care being taken to keep the parts perfectly clean.

In those rare cases in which the patient upon whom it is required to perform a plastic operation of this kind passes alkaline urine, the surgeon must endeavour to arrest the alkaline decomposition. When the operation admits of no delay, the operation must be performed with the greatest care, so that no drops of urine can pass between the edges of the wound. In cases of this kind Professor Simon does not recommend the retention of a catheter.

In the treatment of urinary infiltration, Professor Simon, guided by his theory, makes an opening into the urethra through the perinæum, and through this passes a catheter into the bladder. The infiltrated urine is left to itself. Saliva, also, has no injurious action upon uncovered tissues, wounds, and the like. This Professor Simon has proved by injections of the secretion under the skin of oxen and dogs. From this it follows that the surgeon must not fear to perform a necessary operation when there is excessive salivary secretion, so long as there is no other ground for delay.

ART. 196.—*On Abscess of the Prostate; Treatment by Puncture per Rectum.*

By C. F. MAUNDER, F.R.C.S.

(*Guy's Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

The subjective and objective symptoms of abscess of the prostate having been first described by Mr. Maunder, he then discusses the question of treatment. Sometimes the abscess breaks into the rectum or the urethra or the bladder, but rarely through the perinæum. But before this spontaneous rupture of the abscess takes place, the patient suffers very severely both locally and constitutionally; and the timely artificial opening of the abscess does much better in cutting short the sufferings, and in expediting the recovery. Of the three modes of opening the prostatic abscess—namely, through the perinæum, through the rectum, or by forcible catheterism—Mr. Maunder prefers the second; and he describes the particulars of this operation, and also details three cases in which it was successfully performed. The instrument to be used is a bistouri caché for opening the abscess, and when the opening is made, a pair of dressing forceps should be introduced into the abscess, when, on separating the handles, the blades will open, the wound will be enlarged, and the matter will flow.

ART. 197.—*On Catheterism in Cases of Cancer of the Prostate.*

By Dr. JACQUES JOLLY.

(*Archives Générales de Médecine*, August.)

"As in all internal cancerous affections, the practitioner rests disarmed before the development of this affection, which tends inevitably to death. All that he can do is to attempt to soothe his patient by all the means in his power—to relieve pain by opiates administered in all forms—to combat constipation and retention of urine—to support the strength of the patient by means of an appropriate hygiene, suitable nourishment, and tonics; such is the course the practitioner ought to propose to himself.

"To prevent the accumulation of urine in the bladder and to remove the violent pains which it excites, it is often necessary to have recourse to catheterism. The surgeon should not forget, however, that this proceeding is not without danger in cancer of the prostate, and that he ought not to carry it out unless with great prudence and extreme gentleness. Hæmorrhage, at times very serious, is always to be dreaded; consequently, no instrument should be passed on patients thus affected unless one cannot do without it. Some surgeons have attempted—in order to avoid the inconvenience of the frequent introduction of the catheter—to leave the instrument at rest in the bladder; but, in general, it has not been tolerated, because of the excessive pains which are excited by it, and it is only in exceptional cases that patients have been able to retain it for more than twenty-four hours.

"Finally, when one cannot succeed in introducing an instrument into the bladder, and when symptoms of retention of urine become menacing, one is justified in practising vesical puncture, without hope, it is true, of curing the patient, but in order to relieve pain, and to prolong life for a time. The operation has been done four times under these conditions, and with the exception of one case, where the wound became the starting point of fatal erysipelas, it did not seem to have any influence upon the fatal termination of the cancer."

ART. 198.—*A Curious Case in which Incontinence of Urine was the first and almost the only Symptom of Prostatic Retention, with Secondary Disease of the Kidneys.*

By JONATHAN HUTCHINSON, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Medico-Chir. Review*, July.)

In this case the patient suffered from involuntary discharge of urine, which at first suggested the probability of diabetes, or Bright's disease, but no sugar or albumen could be detected. Dr. Peacock thought that although some of the urine was voided, a large residuary quantity might be retained; and this opinion proved correct, for on the employment of the catheter, a large quantity of water was drawn off. The patient now ceased to suffer from incontinence, but he also ceased to pass his urine voluntarily, and the use of the catheter was required daily. Mr. Hutchinson found on examination by the rectum that the prostate was enlarged, but still the catheter encountered no obstacle at the neck of the bladder. The condition of the patient became gradually worse, and yet no definite cause could be assigned for the symptoms, and death ensued after a state of somnolence. The post-mortem examination revealed the facts that the ureters were as large as small intestine; that the right kidney was a mere bag filled with fluid; that the left was much enlarged and inflamed; that the bladder was of large size, with thick fasciculated walls, and that the prostate was moderately enlarged, but that an almost pedunculated lobe projected from it into the bladder. Mr. Hutchinson observes that the whole kidney mischief was secondary

to concealed and unsuspected retention, which had probably existed for some time, and that if the condition had been recognised at an earlier period the remedy would have been found in the use of the catheter, or in the establishment of a permanent fistula above the pubes. In the case described, however, the patient complained of so little uneasiness, and attended so regularly to his business every day, that no serious danger was apprehended even by himself; and the only complaint he made was, that he frequently wetted his bed, and lost his urine while walking.

ART. 199.—*On the Treatment of Tubercular Disease of the Testicle.*

By Dr. SALLERON.

(*Archives Générales de Médecine*, August.)

According to Velpeau the therapeutics of tubercular engorgements of the testicles ought to take for their starting-point the two following propositions: 1stly. When abandoned to itself the disease almost instantly terminates through wearing itself out and disappearing in more or less complete disorganization of the testicle; 2ndly. Tubercular disease of the testicle never necessitates castration. The last proposition ought to be admitted absolutely, for ablation of one testicle does not prevent the other, when it contains tubercular germs in a latent state, from taking on the same disease; it is perhaps even the means of accelerating its development by displacing the movement of fluxion.

With regard to the former proposition, this seems much more questionable; for to take as a cure the more or less complete disorganization of so important an organ as the testicle, proves clearly and admits implicitly the inefficacy of the vaunted means for combating this affection. Unfortunately, this powerlessness is but too real, and since according to facts which have been observed, tubercular disease of the testicular parenchyma appears much less susceptible of becoming extended, and propagated to the vesiculæ seminales than that which exists in the epididymis, it is right to follow the advice of Velpeau to abstain from making a sacrifice of the part in order to preserve the whole, and not to cause the patient to run without advantage the risk of an operation which is always useless, and sometimes followed by serious consequences.

But when the tubercular affection is limited to the epididymis, which most frequently happens, at least after the twentieth year of age, the local means proposed by authors under the title of topical remedies, such as pommades, plasters, and resolvent liquids, appear to have no efficacious action, and rather tend to accelerate the ramollissement of the tubercles, unless there be an error of diagnosis and the case one of simple blennorrhagic engorgement; for in the genital as in all other organs, tubercle shows very little tendency to disappear by absorption, notwithstanding the contrary opinion of Delpech. If pommades of iodide of lead, potassium, and mercury, and plasters of soap, hemlock, &c., and at the same time, the internal administration of iodide of potassium, iodide of

iron, hydrochlorate of baryta, tannin, sulphur baths, aromatics, alkalies, &c., succeed, then in all probability these remedies have been employed against syphilitic or blennorrhagic swellings. But the employment of all these means has more than doubtful efficacy against a well marked tubercular affection, and whenever I have found patients affected with tubercular epididymitis, these have already carried out such treatment continuously and for a long time, but with no good appreciable results; consequently, I have lately abstained scrupulously from all active medication so as not to keep the patients useless in the hospital, a long sojourn in which is not always exempt from inconveniences. It is, however, just to recognise the fact that by the combination of different internal and external means employed against suppurating tubercles, one may sometimes obtain a relative but never a complete cure; for if cicatrization of the existing fistulous tract be obtained, these same means have no action in determining the absorption of tubercles which persist in the crude condition. Moreover, if the affection be unilateral, by suppressing the pathological action taking place on one side, the surgeon must have greater fear as to the other.

Curling has proved by two positive facts figured in his work, the cretaceous transformation of tubercles. This transformation, capable of taking place in the genital organs, as in the lungs, will be, not a cure, but a very desirable mode of termination, and one of a nature to prevent many possible accidents, but as the therapeutical means at the disposal of science are not such as to produce this result, I think that in such circumstances, it must be accepted as an exceptional fact, and as a benefit from the medicinal power of nature, which art is not able to provoke. When the tubercular engorgement of the testicular parenchyma passes into the inflammatory state, it is necessary to combat it by the antiphlogistic measures and resolvents employed in like circumstances. One can, without doubt, triumph over complications and retard the dissolution of the organ; but as one does not cure the principal affection which should inevitably insure sooner or later the loss of the testicle, I think that in this case it would probably be of more avail to allow the disorganization to follow its course, than to follow a too energetic treatment, which would debilitate the patient by pure loss, and without sufficient compensation.

When the tubercular affection causes fungous protrusion of the testicle, is it proper to wait patiently for spontaneous elimination, since there is no rigorous necessity for castration, and the operation is not always without danger? I think that in such a state of affairs temporization would not be without serious inconvenience, and might, by prolonging the sojourn of the patient in the hospital, and by allowing the persistence of a suppuration more or less fatal and abundant, result in a prolonged decubitus always more or less compromising for the general condition. After the favourable result obtained in one case from the use of Canquoin's paste, I think that in similar conditions, and when the mass of the testicle has very evidently been destroyed, it is well to employ local caustics in order to accelerate the detachment of the morbid mass and to hasten cicatrization. This plan of action which has regard to the integuments and cord, is far preferable to the use of the bistoury, because it gives less fear to the patients, is not in their eyes an opera-

tion, and, above all, is not of such a nature as to cause those complications which are so often observed after the use of a cutting instrument ; it even leaves behind a nodule which may satisfy the imagination of the patient.

Should it be admitted, with Aug. Bérard, that tubercle of the testes ought to be not only removed early, but also extirpated entirely ? Notwithstanding the name of its supporter, this line of action seems as irrational as that of Lisfranc, who removed the cancerous neck of the uterus, an operation which has happily fallen into just oblivion, and which no longer figures in surgical science. As the insufficiency of pharmaceutical means seems to be almost positive against an affection which is insusceptible of resolution, and which must inevitably pursue all its stages until complete evolution of the tuberculous material, nothing more remains than the employment of the hygienic measures commended by all authorities who agree in recommending fresh air, much exercise, sufficient nourishment, and, at the same time, according to Velpeau, the internal administration of iodide of potassium, iodine, tannin, &c. None of these authorities, however, cite facts of a positive cure by the use of such means, which are not always readily procurable by a great number of patients obliged to seek from daily labour their means of existence.

Tubercle of the genital organs being most frequently developed in great human agglomerations on the bodies of men living in a community and associated in confined spaces and in a close atmosphere, it was rational to prescribe a sojourn in the country, where the development of this affection is rarely observed. But against the disease, when developed and in full activity, its efficacy is at least very problematical, as has been proved by five cases of Arabs living in a medium and in conditions of habitation in which pure air and a splendid sun rarely failed them. It is necessary, however, to acknowledge that this, perhaps, the sole means, not of arresting the development of the tubercle, preventing its softening, and favouring absorption, but, on the contrary, of accelerating dissolution and spontaneous elimination, and obtaining a certain cicatrization of fistulous tracts, and, moreover, of preventing complications which might compromise the general health and lead to the loss of the patients.

With the existence of an infusion of serosity into the tunica vaginalis, is it indicated to make a puncture, followed by injection of iodine ? Doubtless, by the puncture the surgeon diminishes the size of the tumour, which then becomes less troublesome. The condition of the gland and the epididymis can then be better made out. But when the iodine injection is followed by resolution, I believe, notwithstanding the opinion of Velpeau, that there has been an error in diagnosis ; that the surgeon had simply to do with a blennorrhagic swelling ; for, as I have often said, preparations of iodine seem to be quite powerless against the truly tubercular engorgements.

ART. 200.—*On the Detection and Treatment of Foreign Bodies in the Bladder, with Remarks on the Use of the Endoscope.**

By EDWARD LUND, F.R.C.S.

(*British Medical Journal*, July 31.)

There is one source of difficulty Mr. Lund writes, in using this instrument, which may cause much annoyance. It is that, in order to see an object with the endoscope, in the bladder filled with urine or water which has been injected into it, it is necessary that the window of the endoscope-tube should be brought into very near contact with the body to be examined; indeed, the tube should first be used as a sound or searcher to find the foreign substance; and then, having got some clue to its exact position in the bladder, we may hope to have it properly illuminated. If this is not done, the water by which the window of the tube is surrounded absorbs the light so completely that, to use Dr. Cruise's own words, in a letter to the author on this subject, "you can see nothing but darkness until the window of the speculum touches some object, such as the mucous membrane, a stone, or the like." This property of water to absorb the rays of light is well known to opticians; for it is said that, during the operation of diving in deep water, at a certain distance below the surface, all the light from above is cut off, and darkness prevails; and this same condition may exist in diving about in the bladder with the endoscope-tube, seeking to discover some foreign body, when, if it happens to be of a dark colour, we may imagine that we are really viewing it, while all the time the black colour produced is the result of the light being shed out into the mass of water through the window of the speculum-tube.

T. W. H., aged seventeen years, was admitted into the Manchester Royal Infirmary, under Mr. Lund's care, on August 28th, 1868. He was an intelligent, well-educated boy, of rather reserved, taciturn disposition; and all the author could ascertain in reference to the case was that, about four days previously, in the evening, while in a dark room, he had passed a piece of India-rubber tubing, such as is used for infants' feeding-bottles, along his urethra; the penis becoming suddenly erected, the tubing slipped into the bladder, and he could not recover it. He did not have any pain; and it was not until two days afterwards, when he could not pass urine, and was suffering great distress from the distension of the bladder, that a surgeon was sent for, and he confessed to him what he had done. A catheter was used. It could not be passed quite into the bladder, for it seemed as if the urethra was blocked up by some foreign body; but, on withdrawing the instrument, the urine flowed off, with occasional interruptions, until the bladder was emptied; and after this he had no further difficulty in the passage of the urine. The boy stated that the piece of tubing was about six inches in length, and of the diameter of a common writing-quill.

* Being the substance of a paper read before the Medical Section of the Manchester Royal Institution on April 7, 1869.

On August 29, Mr. Lund examined him with the endoscope while lying on his back in bed. Chloroform was not given, and the patient bore the examination very well. Mr. Lund could see a dark mass in the bladder on his left side, with a sharp outline or edge; while all the other parts of the interior, where the mucous membrane could be seen, were of a pinkish salmon colour.

On September 5, the urine, before clear, acid, and free from mucus, contained a little mucus; and on the 11th this had become muco-purulent, with a very slight trace of albumen. On the 19th, Mr. Lund again used the endoscope; but he could not, after the most careful search, discover the dark black mass which he had before seen; and from this he concluded that there had been some error in his previous observation, and what he had thought to be a foreign body must have been only the darkness of the unilluminated bladder. The patient now complained, for the first time, of pain along the penis and in the glans after micturition, and also a sensation as if something solid were about to enter the urethra with the flow of urine; but none of these symptoms were constantly present.

On the 28th, Mr. Lund made another examination; and now he was convinced that he could see the tube in the bladder, as, in the window of the endoscope, one-half the space was dark, with a sharp edge, the rest being of the colour of the mucous membrane; and in this he was confirmed by the testimony of Mr. Fennell, house-surgeon, who recognised the same appearance. But on attempting to move the instrument about to catch another view, the foreign body slipped out of reach, and Mr. Lund could not refix it in position, even after much perseverance; so that he was compelled to be content with this single observation. Acting chiefly, therefore, on information thus obtained, on 2nd October the patient was placed under chloroform, and lateral lithotomy was performed in the usual way. The author found a foreign body in the bladder; felt the end of the tube; drew it down by means of a blunt hook with which he had provided himself; and extracted it with a small pair of nasal polypus forceps. The external wound was rather small; there was no hæmorrhage; and he did well. From this date the boy made a good recovery, and left the hospital on 9th November, 1868, thirty-eight days from the date of the operation.

ART. 201.—*Calculus Vesicæ: Case where Death followed the Introduction of the Lithotrite.*

Under the care of Mr. HENRY SMITH, of King's College Hospital.

(*The Lancet*, August 21.)

The patient's case is interesting and instructive, as it shows what serious results may ensue from the introduction of an instrument into the bladder of an apparently healthy person, especially should there exist any disease either of the organ itself or of the kidney. Instances

have occasionally been met with in the hands of various surgeons where death has rapidly followed even the mere introduction of a catheter or sound, and it is probable that in most of these instances some disease of the kidneys, which was not ascertained during life, existed to render the operation so dangerous. In the case we are about to relate, the man was of such a remarkably healthy appearance, of small and wiry frame, that there was not even a suspicion of any organic disease about him, and no case would appear to have been more favourable for an operation. Mr. Smith also used the utmost gentleness in introducing the lithotrite for the purpose of ascertaining the size of the stone, and had not the slightest difficulty in laying hold of it, and the fatal result of this manœuvre was a matter of astonishment to all those who witnessed the introduction of the lithotrite.

H. D—, aged sixty, a spare, wiry-looking, healthy countryman, was admitted into the hospital on January 18, with symptoms of stone. With the exception of these symptoms, the man seemed to be in remarkably good health.

On the 20th, Mr. Henry Smith introduced a moderate-sized lithotrite very gently into the bladder, and, opening the blades, immediately seized a stone, which he measured, and found to be about three-quarters of an inch in diameter, and apparently very hard. This proceeding only lasted a few moments, and produced scarcely any pain. Mr. Smith determined to crush the stone in a few days.

On visiting the patient on the 22nd, Mr. Smith was surprised to find him suffering most severely from vesical irritation, the symptoms being continual desire to pass urine, which was effected with severe pain, and only in small quantities. Warm baths and opiates (both by the mouth and rectum) were exhibited, but gave scarcely any relief. The general system soon became affected, and a low typhoid condition was established; and the patient continued in this state of extreme suffering until the thirteenth day after the use of the lithotrite, when he died.

On post-mortem examination the following appearances presented:—A stone composed of oxalate of lime, and slightly covered by phosphates, was found lying on the base and left side of the bladder. It was nearly as big as a blackbird's egg. At the point where it lay there were three ulcerated patches, the mucous membrane being destroyed. The structure of the bladder itself was much thickened, and on cutting through its walls there were seen two or three cavities containing purulent matter, and these cavities were lined by a distinct and well-formed membrane. The prostate was much enlarged. The right kidney was much enlarged, and the surface was studded over with minute whitish deposits. The cortical structure was much congested, and the calyces of the kidney contained some muco-purulent secretion. Left kidney healthy.

In some remarks which this case gave rise to, Mr. Smith stated that it was fortunately one of extreme rarity. He had never witnessed any bad results from the passage of a lithotrite, although, of course, like others, he had on more than one occasion witnessed the most violent symptoms, and even death, after a single act of crushing a stone. He must confess that he was sorely puzzled, when the violent symptoms came on, to know how to account for them, and he was in doubt whether he should not introduce the lithotrite, and break up the stone at

once—a measure which is known to be very effectual in removing similar symptoms after a stone has been once broken probably into large fragments; but he thought the proposal too hazardous. Then the question naturally occurred to him as to whether he should not perform lithotomy, and thus remove what might be the offending cause. He considered this point very seriously, and conferred with his colleagues about it; but it was not deemed advisable, in the condition the patient was in, to resort to this step. The appearances after death justified the wisdom of non-interference; for it was clear that disease of the bladder, at least, had been going on for some time, and there is no doubt that the simple introduction of the lithotrite and measuring the stone had in that state of things excited fresh mischief. The most extraordinary feature in the case was the entire absence of any symptom of concomitant disease of the bladder when the patient first applied.

ART. 202.—*On the Employment of Ice in Affections of the Testis.*

By M. DIDAY.

(*Annales de Dermatologie*, Nos. 1 and 3; and *British and Foreign Med.-Chir. Review*, July.)

M. Diday believes that sufficient importance is not attached to this procedure, which is one from which he has derived very great advantage in his own practice on the treatment of blennorrhagic orchitis in irritable testis, and in certain ill-defined affections of the organs of which pain is the characteristic feature.

1. *Blennorrhagic Orchitis*.—It is only quite exceptionally, even in cases of epididymitis, that the testis itself is involved; but when this is the case, the suffering becomes terribly severe. The relief of this is often very difficult; and one of the means which sometimes effects it, incision of the tunica albuginea, M. Diday regards with disapprobation, as it is not unfrequently followed by atrophy of the organ. But of the benefit of the methodical application of cold he has had the most striking proof, some of the examples of which he refers to in this essay. To obtain this, however, the mode of application must be closely observed. Two pigs' bladders are to be soaked for a few minutes so as to render them supple, and their apertures having been enlarged by scissors, four or five pieces of ice the size of a goose's egg are to be introduced. Before tying the neck with packthread, care must be taken by compressing the bladder above the ice, to free it completely of air, otherwise it will not properly envelope the parts. For the same reason it should be tied as near its aperture as possible. One of these bladders is placed under the testes, guarding the thighs and perineum from cold by napkins. The other is placed over the testes, and so that it may reach, if necessary, as far as the inguinal ring. It is kept *in situ* by means of a handkerchief or small napkin rolled into a circle. At first, the application sometimes causes some pain from the weight of the ice, but in a few

minutes the patient gets accustomed to this, and in less than a quarter of an hour relief from the previous torture is already marked, while as a general rule, at the end of an hour all pain has ceased, and the testis has slightly diminished in size. Nor as a rule will the pain return unless the application be too soon suspended. The ice should remain permanently applied for at least eighteen hours, but forty-eight consecutive hours is the mean time that experience teaches may be required. In order to ascertain whether it may be safely discontinued, we must remove the ice and press with the end of the finger the portions of the testes which were at first the chief seats of pain. If this gives pain and the patient flinches, the ice must be reapplied, or a relapse will certainly occur. In some cases it has to be continued for two, three, or even five consecutive days. It is remarkable that this prolongation does not weary the patients, who, alarmed by what they have suffered, and by some lurking sensations, are usually averse to leaving off the ice too soon. It is essential that the necessity should be impressed upon them of the application being quite continuous. The bladders must be replaced by others as soon as the ice has nearly melted, and care must be taken to have a good provision always at hand. In general, when they have been properly filled, the bladders only want renewing every two hours. When the application is tentatively or definitively discontinued, the testicle should be covered for an hour or so with cloths dipped in cold water, so as to facilitate the transition to the ordinary temperature.

2. *Irritable Testis*.—This M. Diday regards as a very well marked form of neuralgia, characterised especially by the absence of all material lesion, and often of any antecedent disease, by the pains being supportable as regards their intensity, but especially annoying by their continuousness, and by the effects which certain conditions exert on them. Thus dorsal decubitus and mental distraction always alleviate them, while walking and crossing one leg over the other always aggravate them—and this always, in all cases, without habit exerting any effect. Just in proportion as the testicular neuralgia approaches this type is the application of ice certain to effect a cure. Two marked examples of this are related; and even in cases in which the success has not been so complete or so rapid, M. Diday has met with an amount of relief attainable by no other means.

3. *Other Morbid Conditions of the Testis*.—These may be of different kinds, but ice will be useful in proportion as pain is the dominant element, unconnected with inflammatory action. That this last is not amenable to the action of ice is seen in the most frequent and best defined of testicular inflammation—blennorrhagic epididymitis, where ice is useless, as it is in inflammation of the testis itself in all but for the relief of pain. A not unfrequent form of nervous pain, which, without being excessive, is very persistent and annoying, is found to prevail in the left side, succeeding epididymitis in persons having varicocele. Here ice is of marked advantage, but it is difficult to induce the patients, in spite of their constant complaining, to devote the time necessary for its effectual application.

ART. 203.—*The Diagnosis of Chancres.*

By A. C. HAYNES, M.D.

*(Nashville Journal of Med. and Surg.; and Medical Press and Circular, October 27.)**Constitutional Chancre.*

Dr. A. C. Haynes gives the following differential diagnosis of chancres, culled from the best authorities :—

1. It has an incubation of about twenty-five days.
2. It comes first from the direct application of the virus of a constitutional chancre. Second, from secondary accidents in a secreting form. Third, sometimes from the blood of a syphilitic person in the secondary period.
3. It occurs most often alone.
4. It will not inoculate itself on the individual who bears it, nor on a person who has the constitutional syphilis.
5. It does not begin with a vesico-pustule, but by a simple erosion, and sometimes by a papule.
6. The constitutional chancre presents itself under the form of a superficial ulceration with edges inclined. This ulceration is covered, in part, by a false membrane, which resembles, in a very marked degree, the spawn of a frog. The borders are of a lively red, the form of the ulceration is generally regular ; it suppurates a little.
7. It is rarely painful.
8. It is accompanied, ninety-nine times of a hundred, by an induration at the base ; elastic, chondroide induration, having no characters of inflammatory induration.
9. The lymphatic ganglia in the neighbourhood of the chancre become indurated and enlarged, hard, and indolent, having no tendency to suppurate.
10. The constitutional chancre produces but very little reaction ; has a great tendency to heal ; it ulcerates but little, and seldom ever takes on the gangrenous or phagedenic form ; it has a very regular march.
11. It is the first apparent manifestation of the syphilitic diathesis ; it is then the sign of the general infection of the economy ; we sometimes see the roseol, angine, &c., appear before its complete cicatrization.
12. It belongs especially to the human family.

Local Chancre.

1. It has no incubation.
2. It comes from the contagion of a local chancre or a virulent bubo.
3. It is generally multiple.
4. It is inoculable, *ad infinitum*, to all individuals, including the one who bears it. The pus from the suppurated bubo is inoculable only when it is virulent.
5. It begins with a vesico-pustule.
6. Presents itself under the form of a deep ulceration ; the bottom is filled with a species of organic detritus mixed with pus. The borders are if cut perpendicularly, separated from the adjacent parts.

7. It is nearly always painful.
8. The local chancre is generally accompanied by inflammatory induration, but never by specific induration.
9. It is nearly always accompanied by adenitis in a suppurating form, and sometimes furnishing inoculable pus.
10. It is a very grave local lesion; has a very strong tendency to ulceration; very irregular in its march; has no tendency to heal as the constitutional chancre; it sometimes takes on the phagedenic and gangrenous forms.
11. It is purely a local accident; has no connection whatever with syphilis.
12. Transmissible to some animal species.

ART. 204.—*On Subcutaneous Injection of Bubo.*

By Dr. WERTHEIM.

(*Wien. Med. Wochenschrift*, October, 1868; and *British and Foreign Med.-Chir. Review*, July.)

Dr. Wertheim, attached to the syphilitic and skin department of the Rudolf Hospital, Vienna, states that he has given up all attempts at dispersing buboes by causing their absorption, and now treats them by a very simple and efficacious procedure, subcutaneous injection. A solution of various substances, as morphia, camphor, sulphate of copper, &c., may be used as circumstances require, that of muriate of morphia (gr. iv ad aquæ 3ij) being that which is usually preferable. The ripe abscess is punctured by means of a thick needle, or the tube of a strong Pravaz syringe, and after most of the pus has been gently pressed out, the injection of eight or ten drops of the solution is practised, the patient being taught himself to empty every three hours the fluid that may have collected. The injection is at first repeated daily, and afterwards at longer intervals. Although not essential, it is better for the patient to keep in bed. The advantages of the method are that the pain in the abscess almost immediately ceases, and the other inflammatory symptoms steadily diminish; the thickened pus is gradually transformed into a thinner and thinner exudation, gradually decreasing in quantity, so that in three or four weeks it ceases entirely, and no cicatrix remains. The secretion of pus is confined to the spot, and the surrounding induration gradually diminishes.

ART. 205.—*On a Complication of Bubo.*

By M. CLERC.

(*Annales de Dermatologie et de Syphilographie*, No. 5; and *British and Foreign Med.-Chir. Review*, October.)

Under this title M. Clerc draws attention to the fact that peritonitis may constitute a most important complication, he having indeed met

with four cases of general peritonitis in individuals the subjects of chronic bubo, three of these proving fatal. This complication is met with as one of the consequences of chronic bubo occurring in strumous subjects. Several glands are affected, and through the plastic infiltration of the surrounding cellular tissue an ill-circumscribed, hard, voluminous, non-mobile tumour is formed, which seems to consist in a fusion of the deep-seated and superficial glands of the groin, and frequently implicating some of those of the iliac region. This aggregate of glands tends neither to resolution or suppuration, its natural course being to pass into the condition formerly termed scirrhus. Still, under the influence of walking, fatigue, &c., the tumour sometimes becomes partially inflamed; that is, only some of the glands become affected, and passing on to a state of suppuration, give rise to multiple and successive collections of pus. Very frequently in the subjects of these chronic buboes, the lymphatic glands of the iliac region become the seat of a morbid condition, to which it is of great importance to pay attention; for this *adénopathie iliaque*, usually overlooked, sometimes gives rise to most serious accidents within the cavity of the abdomen. This is easily understood when it is borne in mind that the iliac glands are only separated from the peritoneum by a thin layer of lamellar connective tissue, which always becomes implicated in the morbid process of which the glands are the seat. The existence of the subperitoneal centre of inflammation renders a general or partial peritonitis not only possible but imminent.

As we have said, M. Clerc has met with four cases of general peritonitis so produced, and he relates two of these in which post-mortems were performed. This is, however, a rare affection, but he believes partial peritonitis from this cause is of frequent occurrence, although it is frequently overlooked because it is confined to the iliac region, and the patients recover. Both MM. Richet and Petrequin have recognised the fact, that symptoms analogous to those produced by strangulated hernia may have their origin in inguinal adenitis. The complication here described is by no means peculiar to the bubo arising from chancre, but may ensue on chronic inguinal bubo induced by any other cause.

ART. 206.—*Two Cases of Colloid Cancer of the Large Intestine.*

By J. COOPER FORSTER, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Mr. Cooper Forster relates these cases of colloïd cancer on account of the rarity of this form of carcinoma. Colotomy was attempted in one case and performed in the other, but both patients died. Mr. Forster thinks, however, that in the case in which the operation was performed the distress from distension of the bowel was relieved, and life was prolonged for some time.

ART. 207.—*Different Methods of Operating for the Cure of Anal Fistula.*

(*Medical Press and Circular*, October 20.)

On Sept. 20, at the Meath Hospital, Mr. Porter operated on two cases of fistula in ano, in each of which, with a view to instruct his class, he adopted a different method of procedure.

In the first case, that of a strong plethoric man, æt. fifty-five, who had a blind external fistula on each side of his anus, extending up beside the gut for nearly five inches, the operation adopted was carried out by means of a speculum devised by Sir Philip Crampton for the purpose. This speculum, which is made of silver, is sufficiently large to contain the index finger, and has a slit, about a quarter of an inch in width, extending along one side of it for nearly its whole length. The speculum being introduced, and the finger placed in it, a sharp-pointed bistoury is passed into the track of the fistula, and its end felt for by the index finger through the slit in the speculum. Having been found, the finger is withdrawn, and the point of the bistoury pushed through the wall of the gut and caught in the slit of the speculum. The knife is then made to cut its way to the surface with the usual sawing motion, the point being guarded by the speculum, in which it lies.

In the second case, that of a man æt. thirty-three years, suffering from a blind external fistula on the right side of the gut, the track of the fistula was laid open into the rectum by means of Weiss's convertible fistula knife. The finger being introduced into the rectum, and the knife into the fistula, the end of the latter was felt for, and its sharp point being protruded, was pushed through into the gut; the lancet point was then drawn back, and the probe extremity of the knife being caught against the point of the finger, was withdrawn in the usual way.

In both these cases the wounds were dressed from the bottom with plugs of lint, and the men made rapid and favourable recoveries.

ART. 208.—*Amputation of Penis for Epithelial Disease.*
Ricord's Operation.

(*Medical Press and Circular*, October 20.)

Jas. B., æt. sixty, was admitted into the Meath Hospital, suffering from epithelial disease of the penis, of eight months' standing, involving a great part of the organ. The glands in the neighbourhood being free from enlargement, Mr. Porter, on the 6th of October, removed the part by operation, following Ricord's recommendation of slitting the mucous membrane of the urethra in four places, and stitching each part to the skin. Numerous ligatures were applied, but severe hæmorrhage commenced a few hours after the operation, and, refusing to yield to other treatment, it became necessary to pass three needles through the substance of the stump and employ acupressure. The needles and ligatures were removed in due time without further hæmorrhage, and the wound is now in a fair way to heal.

ART. 209.—*Case of Colotomy in Cancer of the Rectum.*

By ROBERT B. CARTER, F.R.C.S.

(London Hospital Reports, vol iv.; and British and Foreign Med.-Chir. Review, July.)

The patient in this case was a man, aged thirty-four, who had suffered for more than two years from disease of the rectum. The operation was performed on the 6th Nov., 1866, and he was so much relieved that he lived until the 11th of March, 1867, when he died from exhaustion. It is mentioned that the patient had been in the habit of taking a teaspoonful of powdered charcoal three times a day, under non-medical advice, for four months before the operation, but this circumstance turned out to be a great source of comfort to the patient and those about him, for the charcoal destroyed the odour of the contents of the bowel, and there was no fœtor when the colon was opened. The operation was rendered painless by the use of the ether-spray, which accomplished all the objects that were expected from it.

ART. 210.—*Further Observations on Lumbar Colotomy for the Relief of Intractable Diseases of the Rectum, with four Cases of Operation.*

By W. CURLING, F.R.C.S., Consulting Surgeon to the London Hospital.

(London Hospital Reports, vol. iv.; and British and Foreign Med.-Chir. Review, July.)

This paper is a continuation of former communications made on the same subject by the author, and his object is to show that great relief from distress and pain, and in some instances even prolongation of life, have resulted from the operation. The first case was one of cancer of the rectum, and although the patient died ten months after the operation, his sufferings were very materially relieved, and he recovered sufficient strength to be able to walk about until the disease advanced to its fatal stage. He obtained regular evacuations for a considerable time from the artificial anus. The next case was one of intractable stricture of the rectum in a farm labourer, and an artificial anus was established in the left loin by means of Mr. Curling's operation. The result was very satisfactory as far as the relief of the pain and other inconveniences was concerned, but the constitutional improvement was not so great as was to be desired, owing probably to the cachectic condition of the patient and his indigent circumstances. In the third case the patient was an unhealthy-looking woman, in whom the indications for the operation were not favourable, and Mr. Curling performed it only at her own urgent request. It was followed by constant sickness, and death from exhaustion ensued in eight days afterwards. The fourth case was one of obstruction from carcinomatous stricture of the colon in a woman with deformed spine. The obstruction had lasted twelve days; the abdomen was greatly distended and tympanitic, and its walls were so thin

that the course of the distended transverse colon could easily be distinguished. Mr. Curling concluded that the cause of the obstruction was stricture of the sigmoid flexure of the colon, and he proposed colotomy as the only measure likely to give relief. He accordingly performed the operation, which was followed by temporary relief, and the patient took food well for three days, when her strength gradually failed, and she died six days after the operation.

ART. 211.—*On Lumbar Colotomy, in special Reference to Cases of Vesico-intestinal Fistula.**

By REGINALD HARRISON, F.R.C.S., Exam., Registrar and Lecturer on Descrip. and Surg. Anatomy, Liverpool Royal Infirmary School of Medicine.

(*Liverpool Medical and Surgical Reports*, October.)

The author gave a full account of the case of a lady in which he had been consulted, in whom a fistulous communication had been established between the bladder and the intestinal canal. Fæces passed in the urine, the bladder was very irritable, and there was intense pain over it when flatus was passed. Micturition was very distressing. The patient was very emaciated and enfeebled. An examination was made with the endoscope, and an opening about the size of a sixpence was seen a little to the left side of the fundus of the bladder. It was considered to be non-malignant, and the author believed it was due to dysenteric inflammation, from which the patient had suffered long and severely. It was determined to perform lumbar colotomy, the advantages anticipated from the operation being—1st, the alleviation of the distressing pain from flatus entering the bladder; 2nd, the contraction, if not complete closure, of the opening, if fæces were prevented from passing through it. A full description of the operation was given. The difficulties likely to be met with were also alluded to—1st, delay in finding the gut, owing to its being in a contracted state; 2nd, the peritoneum forming a distinct meso-colon, instead of being reflected over the front of the intestine. The patient experienced relief from the operation; but next morning became excited and tremulous, and afterwards fell into a state of syncope, from which she never rallied, and died about twenty-six hours after the operation. No post-mortem examination was permitted.

* Abstract of a paper read at a meeting of the Liverpool Medical Association.

(C) CONCERNING THE UPPER EXTREMITY.

ART. 212.—*Amputation of the Scapula, along with Two-thirds of the Clavicle and the Remains of the Arm.*

By PATRICK HERON WATSON, M.D., F.R.C.S. Edin.

(*Edinburgh Medical Journal*, August.)

Dr. Watson records the following interesting case: J. R., aged thirteen, engaged in a paper mill, had his left arm caught between two pinion wheels, and before the engine could be stopped he received a severe injury, for which he was admitted into the Royal Infirmary 27th March, 1869. Dr. Watson deemed it expedient to at once place the patient (the boy) under chloroform, for the purpose of investigating the extent of the injury. "After the removal of his clothes, the arm was found to have been nipped off at the insertion of the deltoid, at which point the brachial artery and the accompanying nerves hung loosely from the end of the stump, the artery pulsating up to almost its fusiform extremity. The whole of the deltoid region, the entire axilla, one-half of the pectoral region, and more than one-half of the clavicle and dorsum scapulæ, were exposed, as in a superficial dissection of the muscles and fascia, entirely denuded of all cutaneous covering. The skin corresponding to these bared parts hung behind like a rag, fenestrated with openings made by the teeth of the wheels. The aperture in the skin through which the remains of the arm protruded resembled the arm-hole of a vest, while the sound skin around this cutaneous aperture was so detached from its subjacent adhesions that the finger could be slipped beneath it for fully an inch all round. This detachment of the untorn skin diminished the likelihood of its retaining its vitality. To leave the stump of the arm as it was, was out of the question. To amputate at the shoulder-joint was to make things no better than they were. There was in fact no means by which a sound cicatrix could possibly be obtained, except by amputation of the scapula together with the clavicle of the arm. Having placed the patient deeply under the influence of chloroform, I proceeded to operate. The patient, in the first instance, was laid upon his side so as to expose the dorsal aspect of the scapula. With a short amputating-knife I made an incision through the centre of the cutaneous opening as far as the posterior costa of the scapula, and with a sweep of the knife upwards and downwards, while the cutaneous flaps were held back, exposed the whole dorsum scapulæ. Laying hold of the bone by its inferior angles, a single incision severed a portion of the trapezius, the rhomboids, and the levator anguli scapulæ. The superior angle thus exposed was drawn downwards and outwards, and the remains of the trapezius, with the other soft attachments of the upper costa, were at once divided. The trunk and branches of the posterior scapular and supra-scapular arteries were now secured. Lastly, the serratus magnus was cut away from its insertion into the under surface of the vertebral costa of the scapula.

"The remaining vessels which bled were secured as before. The patient was now laid on his back, and the skin divided along the clavicle, from which the muscles were detached by slipping the point of the

knife along the upper and lower margins. Dividing the clavicle with the saw, just external to the costo-clavicular ligaments, I cut through the pectoralis, major and minor, and clearing the axillary vessels, gave them to an assistant. And now, on laying hold of the scapula and arm, and drawing them outwards, a few touches of the knife enabled me to clear the remaining attachments of the bones above, so as to complete the separation with a single sweep of the blade towards the axilla. The axillary artery, the acromial and pectoral branches, were at once secured, and all bleeding ceased. There were upwards of twenty vessels tied in all, but certainly not more than two ounces of blood was lost during the operation. The ligatures employed had been previously prepared by soakage in a strong carbolic acid solution. The wound was now washed out with a similar but weaker solution of the acid in water (1 to 40). The horizontal incisions were united by wire sutures, and the anterior and posterior margins of the oval opening were brought together with a strain, by means of six points of interrupted suture. The whole cutaneous surface was again completely cleansed with the carbolic acid lotion, and covered with a plaster composed of one part of carbolic acid to seven of the emplastrum saponis spread upon lint. This was laid so as to adhere smoothly and closely to the surface for six inches in every direction beyond the divided parts, to the complete exclusion of air. The patient was now conveyed to bed, laid among blankets, surrounded with hot-water bottles, and ordered champagne and brandy, together with beef-tea or milk, as circumstances might direct. These were to be given in small quantities, and frequently, so as to diminish the risk of vomiting.

"*Vespere*.—There has been a good deal of vomiting from the effect of the chloroform. There has been neither bleeding nor oozing, though there is obviously fluid contained beneath the plaster. The pulse at the wrist is 117. He is warm and comfortable. To have ice, and to continue the soup and wine."

The patient was dismissed cured on the 11th of June. He was "seventy-four days under treatment; but throughout the whole of that period had no symptom calculated to excite anxiety as to his ultimate recovery. For nearly three weeks the discharge was copious, and undoubtedly purulent, and the usual effect of this continued drain, in the form of emaciation and anæmia, was markedly observed. The carbolized dressings were employed carefully, and daily applied by myself or house-surgeon up to the 18th of April (twenty-two days), by which date the cutaneous flaps were adherent to the parts beneath. A large exposed granulating surface, corresponding to the axilla, remained, however, unhealed. It presented a weak and flabby appearance, which was apparently unaffected for good by the continuance of the carbolic acid application. During the whole of this period there was, however, no fetor arising from the discharge, which was excluded from the action of the air by being covered by the carbolic paste. Any of the secretion which escaped from beneath the paste, and soaked the nest of carded tow upon which the left side was supported when the patient was lying in bed, became more or less tainted in the intervals of twenty-four hours, between the periods at which the dressing and tow were removed. The secretion from the raw surface had at first the aspect of sticky mucus,

like that secreted from the bronchi. I have observed this in every instance where carbolized non-absorbent dressings are employed. The examination of this mucus-like secretion, by means of the microscope, has uniformly shown it to consist of pus-corpuscles in a clear granular fluid. I have observed very much the same appearance in the instance of sores which, through a misapprehension on the part of the patient, have been dressed with the gutta-percha or oil silk placed next to the skin, or where a cabbage-blade or docken leaf has been used as an application. In other cases, where the dressing has consisted of oil and carbolic acid, applied by means of lint, the carbolic acid has a transforming influence on the corpuscles, rendering them angular and shrivelled, while the globules of oil sometimes obscure the field in such a degree as to render the recognition of any corpuscular elements impossible, until ether has been added to effect their removal.

"I have employed carbolic dressing according to the strictest methods of antisepticism in a very large number of cases of operation, using it in this way in manipulations and incisions when its use was restricted by others to its application as a putty to the occlusion of chronic abscesses after incision. I have made the applications myself, renewing them day by day, and I have carefully watched the effect. I have had no bias in favour of this plan, nor have I been prejudiced against it. I have simply employed it because it made great promises, and I have no hesitation in saying that I have been completely disappointed in my expectations. I admit that my expectations were high pitched. I acknowledge I did expect to meet with union by the first intention." * * * *

Dr. Watson is not inclined to accord any credit to the antiseptic treatment as having in any way assisted in the satisfactory result; he fears that it delayed the cicatrization of the granulating surface.

Dr. Watson refers to the case of Dr. Stephen Rogers, and the tables given by him in the *American Journal of Medical Sciences* for October, 1868.

ART. 213.—*On the Mechanism and Insufficiency of Forcible Flexion of the Forearm upon the Arm as a Means of Hæmostasis.*

By M. LEON TRIPIER.

(*Gazette Hebdomadaire*, No. 18.)

It is supposed by Malgaigne that in forcible flexion of the forearm the brachial artery is no longer permeable by blood; he concludes thence that this is an excellent means of hæmostasis in cases of puncture of the brachial artery; at the bend of the elbow for example. This method was put to the test in 1832, and indicated in the "Manual of Operative Medicine." According to Malgaigne, the phenomena are due to flexion of the brachial artery itself.

Although not denying absolutely the fact of the flexion of the vessel, M. Tripier thinks that the arrest of the circulation ought to be attributed to muscular contraction.

In the first place, complete suppression of the radial pulse by forcible

flexion of the forearm is seldom observed except in vigorous subjects. But it has been demonstrated that in these the biceps covers more or less the brachial artery, and may, consequently, compress it against the internal surface of the humerus, as, when it is powerfully contracted, its volume increases, and its natural tendency to cover the vessel is exaggerated. Moreover, when the brachialis anticus muscle, which in these subjects is also much developed, contracts, it pushes the artery against the biceps, and the antibrachial aponeurosis, which form a resistant surface. In weak subjects, and in females whose muscular system is not greatly developed, the surgeon cannot always succeed in arresting the flow of blood in the brachial artery by forcible flexion of the forearm upon the arm. It is necessary, besides, to explain what one is to understand by forcible flexion. A vigorous subject, whose forearm makes with the arm an angle of 120° , can, if he contract his biceps energetically, cause the pulsations of the radial artery to cease for some seconds; but when he is fatigued, the muscle becomes relaxed, and the pulsations of the artery return.

Could flexion be complete without the biceps muscle taking any part in the contraction, the radial pulse would persist. It is, however, almost impossible to bend the forearm completely upon the arm without muscular contraction being brought into play. It is just this point which escaped the notice of Malgaigne.

Finally, the following experiment, which has been repeated by M. Tripier a great number of times, cut short all objections:—By flexing under chloroform, the forearm of a subject, however powerful he may be, in such a manner that the shoulder is embraced by the hand, one can never obtain complete cessation of the beatings of the arteries at the wrist. Here the exertion of forcible active flexion would not be suitable; it becomes necessary to use that of complete passive flexion.

Although many surgeons have applied this method of compression, M. Tripier is of opinion that it ought to be rejected, as it is applicable only for a time in certain patients, and exposes others, who certainly form a much greater number, to a secondary hæmorrhage which may prove fatal.

ART. 214.—*Amputation of the Right Arm at the Shoulder-joint: with Excision of the Scapula.*

By VINCENT JACKSON, F.R.C.S., Surgeon to the South Staffordshire General Hospital, Wolverhampton; Fellow of the Royal Medical and Chirurgical Society.

(*British Medical Journal*, September 18.)

The following case is placed on record by Mr. Jackson:—

Samuel C—, aged thirty-five, was admitted into the Wolverhampton General Hospital, in December, 1864. He was employed on the Great Western Railway as a labourer; and whilst so employed was knocked down, being struck on the back by the buffer of an engine, the wheel of which passed over and crushed his right arm. As quickly as possible, I believe,

he was conveyed to the hospital; but not before a considerable quantity of blood was lost. At half-past six in the evening, shortly after his admission, I saw the patient. He was an unusually well developed and strong man; his face was pale, but not blanched; the countenance expressive of suffering great pain. He was perfectly sensible, and anxious for something to be done to his arm. His habits were intemperate.

On a careful examination, it was ascertained that a compound comminuted fracture of the right arm and forearm existed, and also that the shoulder-blade was broken in more than one place, although the skin covering it was entire, but seemingly much contused. The chest and the other portions of the body were thoroughly examined, but no lesion was detected. A consultation of the surgical staff of the hospital was held; and it was determined to remove the limb at the shoulder-joint, and to deal with the scapula afterwards, as its condition might require. I as quickly as possible amputated the arm at the shoulder-joint; and, the vessels being secured, an examination with the finger induced me immediately to proceed to the removal of the scapula. It was extensively comminuted, and the muscles around it torn, bruised, in fact, almost pulpy; yet the skin, as previously mentioned, was entire. An incision was first made from the upper part of the flap behind to a little beyond the posterior border of the shoulder-blade in a transverse direction and on a level with the spine, and another at right angles to it along the whole extent of the same border. The flaps thus marked out were dissected back, the fractured portions carefully raised from below upwards by division of the muscular attachments, the edge of the knife being kept well upon the bones; the upper and the largest fragment, consisting of the spine and supraspinous fossa, was finally detached after the acromial process had been sawn through, a portion of it being left in attachment to the clavicle. Four vessels were ligatured; the precaution being taken to tie each artery immediately it was cut. The wound was dressed, after the edges had been approximated with wire sutures, with water-dressing. The patient was placed in bed, but he died the next morning, sinking apparently from exhaustion. The *post-mortem* examination revealed no further injuries than those detected during life.

ART. 215.—*Amputation of the Arm at the Shoulder-joint for Osteo-Myelitis. Death from Pyæmia.*

By J. FAYRER, M.D., C.S.I.

(*Medical Times and Gazette*, November 13.)

The following case is an exceedingly illustrative one, not only as to the disease in the bone, but of the pyæmic condition thereby induced. It shows how rapidly blood poisoning may result from osteo-myelitis, and how necessary it is that the surgeon should be constantly on the alert, to detect the earliest symptoms of constitutional mischief, lest the time for re-amputation may pass, and the patient be left in a hopeless condition, with lungs or other viscera disorganised, and beyond the reach of surgical aid.

"B. L. B., a Hindoo boy of nine years of age, was admitted on May 21, 1869, with a fracture of the radius and compound fracture and dislocation of the lower extremity of the right humerus. A portion of the articular surface of the humerus had been removed before admission,

and the denuded and irregular extremity of the bone protruded from a lacerated wound in front and to the inner side of the joint. The lower end of the humerus was stripped of its periosteum for about an inch; but as the denuded bone looked pink and healthy, only the rough and irregular articular extremity was removed just above the condyles. The ulnar nerve was found stretched over the protruding bone, and was in a doubtful state of vitality. The brachial artery had escaped injury. The end of the bone having been removed, the fracture was reduced, and the wound was dressed, the arm being placed on an angular splint on the radial side of the limb. His friends stated that fever came on daily in the afternoon; but on admission he was free from fever. The edges of the wound were partially sloughing. It was dressed with petroleum, a substitute for carbolic acid that I have been using freely lately, and with very satisfactory results. Under this dressing the wound soon cleaned. On the 23rd water dressing was applied under the petroleum. He had also been taking salines when feverish, and quinine during the intervals. He was apparently doing well. On the 24th, in the morning, he had a rigor, and after it his temperature rose to 105° ; this fell to 102° in the evening. Again on the 25th, at 1 a.m., he had another rigor. The temperature again rose to 105° , but at 7 a.m. he was quite free from fever, and the temperature had fallen to 98° . On the 26th he had another rigor, followed by delirium, which lasted half an hour. The temperature rose to 103° . On the 27th he had another rigor at 4.30 a.m. Although the wound and the bone looked healthy, I felt satisfied that pyæmia was rapidly setting in, and I suspected the bone, notwithstanding its healthy appearance, might be the cause, and I regret that I did not act on that suspicion on the first rigor making its appearance.

"I amputated the arm on the 27th, at 9.30 a.m. at the upper third, prepared to remove it at the shoulder joint if necessary. On dividing the humerus, that looked perfectly healthy, I found the medulla full of pus, which evidently extended to the head of the bone. I at once amputated at the shoulder joint. He bore the double operation well, and lost very little blood. The fever gradually subsided by evening, the temperature falling from 103° to 98° at 5 p.m. The following morning he had a return of fever, but the temperature did not rise above 101° , the pulse remaining soft and weak. He did not improve after this; the pulse continued rapid, the respiration hurried, and the temperature high (102° to 104°) until the 31st, when the temperature began to decline. He had no rigors after the operation, but he complained occasionally of a sense of chilliness. The tongue was generally coated and dry. The bowels acted freely, and diarrhœa set in on the 30th. The abdomen became tender and tympanitic, peritonitis evidently setting in. The respirations were quick and irregular, and on the 31st diarrhœa ceased. The kidneys acted well throughout. The urine contained no albumen and no phosphates, but a considerable quantity of bile pigment, and was slightly acid—sp. gr. 1010. He sank, with hurried respiration and all the symptoms of cardiac coagula and of complete exhaustion, on the 31st, at 4.30 p.m.

"The *post-mortem* examination took place sixteen hours after death. Thorax: Bloody serous effusion in the left pleura and pericardium.

Firm fibrinous decolorised clots in right cavities of the heart. The left cavities contained some frothy black blood. The right pleura filled with a puriform fluid. There was a patch of dead lung of about one and a half inch square and an inch deep at base of left lung, and a number of smaller patches, varying from the size of a pea to a sixpence, scattered throughout the lung. These were of an ash or puriform colour, surrounded by an areola of condensed and congested lung tissue, some suppurating, all, when cut into, giving exit to foetid sanies and puriform fluid. In some, when cut into, there was a dark nucleus. These are the so-called pyæmic abscesses, and are described as such by Dr. Braidwood and others. They certainly do present the appearance of an abscess in some cases, and when cut into, real pus as well as puriform fluid may exude. The true pus is that which is formed round the dead tissue in the centre when an effort is made to throw it off, just as in the case of the suppuration which takes place round the "core" of dead areolar tissue that gives rise to a boil. The pus is the result, not the cause, of the death of the lung tissue. These local deaths are found also frequently in the liver and other viscera, and to those who have had the opportunity of studying them in this climate it seems odd how they can be confounded with ordinary abscesses, as is still so frequently the case. The surface of the lung was adherent to the parietes by a yellow puriform shaggy-looking lymph. The right lung contained a few patches of dead tissue, but not so many as the left. The left axillary vein was not thickened; it was healthy from the spot where it had been divided. Peritonitis of a low form was incipient. The bone was examined on the 27th, directly after the amputation; a section was made from end to end of the pieces. The medulla was full of pus up to the line of the epiphysis, but there it stopped. Here and there, where the cancellated tissue had broken down, there were small collections of foetid pus of the size of a split pea. The arrest of the suppuration was remarkably well shown at the line of the epiphysis. Part of the shaft was stripped of periosteum, but where it remained it was found to be thickened."

(D) CONCERNING THE LOWER EXTREMITY.

ART. 216.—*On Erectile Tumours of the Foot.*

By ALFRED POLAND, F.R.C.S., Surgeon to Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv., and *British and Foreign Medico-Chir. Review*, October.)

A case occurred in Guy's Hospital under the care of Mr. Poland, in which there was an "erectile" or cavernous vascular tumour occupying the dorsum and sole of the foot in a young woman of nineteen. For this affection the dorsalis pedis artery and the posterior tibial were successively tied with only partial success, and on a return of the affection the anterior tibial was tied in its lower third with temporary relief; but eventually it was necessary to remove the leg, and the patient made a complete recovery. Mr. Poland appends to this case several others which he has found recorded, and which, though under different titles,

he believes to be similar in character to his own. He regards the tumour in his patient as being a vascular, cavernous, erectile new growth developed in the vasa nasorum of the coats of the deep venæ comites in the sole of the foot, as well as of the communicating veins between the sole and the dorsum; these tumours and their contained spaces communicating directly with the veins, and subsequently receiving blood from the arteries.

ART. 217.—*Wounds of Joints.*

By THOMAS M. PARROTT, M.R.C.S.

(*The Lancet*, April 10.)

A healthy man, about thirty-five years of age, struck his right knee with great force against the edge of a scythe he was carrying. The joint was completely laid open, the limb being, in fact, semi-amputated. Having removed a large coagulum, Mr. Parrott brought the edges of the wound together by numerous sutures (common sewing needles), and covered the interspaces with strips of isinglass plaster. He then bandaged the entire limb and placed a long splint behind it. The wound healed rapidly, and six weeks afterwards the patient was able to walk. The only result of this accident was the slight limp, commonly seen in fracture of the patella, the lower portion of this bone having been cut through.

ART. 218.—*The Mechanism of Dislocation and Fracture of the Hip, with the Reduction of the Dislocations by the Flexion Method.*—Philadelphia: Henry C. Lea, 1868.

By HENRY J. BIGELOW, M.D.

The author commences by giving a short but complete abstract of the contents, which forms a valuable aid in the study of the book, and which we quote at length.

"1st. The anterior part of the capsule of the hip joint is a triangular ligament of great strength, which, when well developed, exhibits an internal and external fasciculus, diverging like the branches of the inverted letter Y. It rises from the anterior inferior spinous process of the ilium, and is inserted into nearly the entire length of the anterior intertrochanteric line.

"2nd. The Y ligament, the internal obturator muscle, and the capsule subjacent to it, are alone required to explain the usual phenomena of the regular luxations.

"3rd. The regular dislocations are those in which one or both branches of the Y ligament are unbroken; and their signs are constant.

"4th. The irregular dislocations are those in which the Y ligament is wholly ruptured; and they offer no constant signs.

"5th. In the regular dislocations of the hip, the muscles are not essential to give position to the limb, nor desirable as aids in its reduction.

"6th. The Y ligament will alone effect reduction and explain its phenomena, a part of those connected with the dorsal dislocations excepted.

"7th. During the process of reduction, this ligament should be kept constantly in mind.

"8th. The rest of the capsule, except perhaps that portion beneath the internal obturator tendon, need not be considered in reduction, if the capsular orifice is large enough to admit the head of the femur easily.

"9th. If the capsular orifice is too small to allow easy reduction, it should be enlarged.

"10th. The capsular orifice may be enlarged at will, and with impunity, by circumduction of the flexed thigh.

"11th. Recent dislocations can be best reduced by manipulation.

"12th. The basis of this manipulation is flexion of the thigh.

"13th. This manipulation is efficient, because it relaxes the Y ligament, or because that ligament, when it remains tense, is a fixed point, around which the head of the femur revolves near the socket.

"14th. The further manipulation of the flexed thigh may be either by traction or rotation.

"15th. The dorsal dislocation owes its inversion to the external branch of the Y ligament.

"16th. The so-called ischiatic dislocation owes nothing whatever of its character, or its difficulty of reduction by horizontal extension, to the ischiatic notch.

"17th. 'The ischiatic dislocation,' is better named '*dorsal below the tendon,*' and is easily reduced by manipulation.

"18th. The flexion of the thigh and downward dislocations is due to the Y ligament, which, in the first, also everts the limb, until the trochanter rests upon the pelvis.

"19th. In the pubic dislocation, the range of the bone upon the pubes is limited by this ligament, which, in the sub-spinous dislocation also, binds the neck of the femur to the pelvis.

"20th. In the dorsal dislocation with eversion, the outer branch of the Y ligament is ruptured.

"21st. In the anterior oblique luxation, the head of the bone is hooked over the entire Y ligament, the limb being then necessarily oblique, everted, and a little flexed.

"22nd. In the supra-spinous luxation, the head of the femur is equally hooked over the Y ligament, the external branch of which is broken. The limb may then remain extended.

"23rd. In old luxations, the period during which reduction is possible is determined by the extent of the obliteration of the socket, the strength of the neck of the femur, and the absence of osseous excrescence.

"24th. Old luxations may possibly require the use of pulleys, in order by traction to avoid any danger which might result to the atrophied or degenerated neck of the bone from rotation.

"25th. Right-angled extension, the femur being flexed at a right angle with the pelvis, is more advantageous than that which has usually been employed.

"26th. To make such extension most effective, a special apparatus is required."

The latter part of the work treats of fractures of the neck of the femur. These are—

“1st. The terms intra- and extra-capsular, applied to these fractures, have little practical significance.

“2nd. When a fracture near the head of the femur shows bony union, it is often impossible to say whether such a fracture was originally inside or outside of the capsular ligament.

“3rd. These fractures are therefore better divided, for practical purposes, into, 1st, the impacted fracture of the neck into the trochanter; 2nd, other fractures of the neck.

“4th. In this impacted fracture, the limb is everted, because the posterior cervical wall is almost always impacted, the anterior very rarely, and in a less degree.

“5th. These conditions mainly result from the relative thickness of the two walls.

“6th. While eversion is due to the rotation of the fractured bone on a hinge formed in the anterior cervical wall, shortening is generally due to the obliquity of this hinge.

“7th. In a well-formed bone, the posterior and thin surface of the neck of the femur is prolonged into the cancellous structure beneath the intertrochanteric ridge, and is the true neck.

“8th. The posterior intertrochanteric ridge is a buttress built upon the true neck, by which, when impacted, this ridge is sometimes split off.”

ART. 219.—*On Puncture of the Knee-joint in the Treatment of Synovitis.*

By J. FAYRER, M.D.

(*Indian Medical Gazette*, June.)

Professor Fayrer, of Calcutta, in a communication to the above-named journal, reports five cases in which he resorted to this procedure with entire success. He remarks:—

The access of air to the opened synovial membrane is regarded as a great source of danger, as it is almost certain to set up irritation, followed by inflammation, which, passing into the suppurative stage, rapidly induces disorganization of the tissues that enter into the formation of the joint, and gives rise to constitutional disturbances, the precursor of surgical fever, which, if amputation be not performed, either wears out the patient by hectic and exhaustion, or destroys life more rapidly by the toxæmic changes due to osteomyelitis or other sources of pyæmia.

Notwithstanding the danger of opening the knee-joint, it has long been resorted to as a surgical operation for the removal of foreign bodies, such as loose cartilages, from its cavity; but the opening has been made in a valvular form, and with every precaution to exclude the air. It has, moreover, been found necessary to prepare the patient for this operation by rest and confinement to the bed or couch, for it has been observed that, when the operations were performed without taking these precautions, dangerous and even fatal inflammation has followed.

Some surgeons, to avoid actually exposing the cavity of the joint to the chance of the entrance of air, have effected the removal of the cartilage by a double operation. The first fixing it by a subcutaneous incision to the parietes of the joint, the second performed after the first wound had healed, removing it altogether. In the so-called hydrops articuli of the knee, a form of chronic synovitis, the joint has been tapped like a hydrocele, and a solution of one part of tincture of iodine and four parts of water injected, with similar results to those with which the same method of treatment has been practised in hydrocele, the excitement of a moderate and modified form of inflammation, and the consequent absorption of the fluid.

The chief source of danger, however, appears to be the access of air, or, perhaps, according to more recent views, not so much the air itself as the organic germs that pervade the air, and that, if this can be avoided, the risk of destructive inflammatory change is much diminished. If such be the case, the use of carbolic acid, on the antiseptic principle, seems likely to be of service, and may render a wound of the knee-joint a less formidable accident than it has hitherto been considered.

That the method of treating effusions into the joints by paracentesis and the injection of iodine is a good one, we can understand from the analogy of hydrocele, and it is fortunate that this particular agent, iodine, seems to have comparatively little tendency, even when exciting severe inflammation, to cause suppuration. But still we cannot but feel that it is attended with great risk in the case of an important organ like the knee-joint, and as yet I have not ventured to test its merits. My experience, however, enables me to speak with confidence of simple paracentesis of the joint in the treatment of inflammation, and, as I believe it is capable of affording great and rapid relief from pain, as well as of expediting recovery, I have no hesitation in recommending it; but it must be borne in mind that the operation is to be performed with the greatest care, and that every precaution be taken to exclude the air.

In performing the operation, Professor Fayrer used a small trocar and canula, and made a valvular puncture.

ART. 220.—*Medicinal Treatment of Ulcers of the Legs.*

By CHRISTOPHER HEATH, F.R.C.S., Assist.-Surgeon, University College Hospital.

(*Practitioner*, August.)

Mr. Heath thinks that sufficient prominence has not been given to the value of internal remedies in the treatment of ulcers of the legs. The three drugs, he says, which he constantly “employs as adjuvants to the local treatment of ulcers of the leg are opium, iodide of potassium, and arsenic; and each has its appropriate class of cases. Mr. Skey has, on more than one occasion, directed the attention of the profession to the advantage of employing the first of these—opium—in the treatment of ulcers, and lays special stress upon the value of the drug in cases of chronic callous ulcer. I find opium of the greatest service, however,

in the small irritable ulcer often found in combination with varicose veins, and also especially in any form of ulcer in which a sloughing action has supervened. I have had recently a case of tertiary ulcer in the leg making satisfactory progress, when it was suddenly attacked with violent sloughing action. This rapidly yielded, however, to the free administration of opium, combined with local poulticing.

“In iodide of potassium we have, I believe, a remedy most potent—I might almost say infallible—in all cases of ulcer dependent upon syphilitic taint, if given in appropriate doses. The tertiary syphilitic ulcer is in my experience a very common one, and may be recognised by the peculiar ‘cachectic’ appearance of the sore, the worm-eaten margins, the thin, profuse discharge, and the want of all healthy granulation at the base of the ulcer. These ulcers affect especially the upper part of the leg, are not usually combined with varicose veins, occur in comparatively young subjects, and frequently recur again and again, as is shown by the thin cicatrices seen in their neighbourhood. The majority of these ulcers occur in women, and are traceable in most cases to infection from the husband, either directly, or, more often, indirectly through the *fœtus in utero*. In these cases there has often been no genital ulceration, no coppery eruption on the skin; but the patient gets out of health, has ulcers on the extremities, and very generally aborts if she becomes pregnant. A very small dose of the syphilitic poison is sufficient to produce these ulcers, and I believe, though the point is one difficult to be sure about, that congenital syphilis may show itself in this way in comparatively early life, *i. e.*, between puberty and twenty. At least I have had more than one patient under my care with ulcers of the leg which rapidly healed under anti-syphilitic treatment, who strongly denied any personal infection.

“In order to derive marked and immediate benefit from the iodide of potassium in these cases, the ordinary 3 and 5-grain doses are useless, and it is essential to begin with 10-grain doses thrice daily in combination with an alkali, and to push it, if necessary, to 15, 20, or even 30-grain doses, though these latter are seldom necessary. Local mercurial treatment, in the form of yellow or black wash, or the white precipitate ointment, appears to hasten the healing of these ulcers; and their recurrence is, I have no doubt, due to non-persistence in the internal treatment until the patient’s health is thoroughly restored.

“Arsenic is an invaluable remedy in those common cases in which chronic eczema is a concomitant, if not the antecedent, of the ulcer of the leg. In those cases where the skin is irritable and inflamed, and the epidermis dry and scaly, local treatment may be varied without end, and a cure will not be produced; whereas, if arsenic be given internally, the leg will rapidly improve, and the ulcer heal under any simple stimulant. My experience does not corroborate the rule laid down by Mr. Hunt, of limiting the dose of the liquor arsenicalis to five minims thrice daily. After a careful and extended trial of the medicine administered in this way, I have come to the conclusion that in many cases to produce a cure it is necessary to increase the dose to ten or fifteen minims, and to maintain this high rate until the constitutional symptoms of the drug are produced. The same rule holds in the treatment of ulcers, lupoid or otherwise, on other parts of the body, but I

will confine my remarks at present to ulcers of the lower extremity. I am careful always to administer arsenic upon a full stomach, and I find a remarkable tonic effect produced by its exhibition."

ART. 221.—*Some Points in Reference to Transverse Fractures of the Patella.**

By JONATHAN HUTCHINSON. F.R.C.S.

(*Medical Times and Gazette*, September 18.)

The author commenced by stating that although his conclusions were expressed in a somewhat positive form and without the citation of cases, yet they were not the less based on the careful collation of a large body of clinical evidence. The chief statements were the following:—1. That after the ordinary transverse fractures of the patella, the upper fragment is not permanently dragged upon by the quadriceps; that, on the contrary, the muscle remains quite passive, and that there is not the slightest benefit from elevation of the limb. 2. That the main cause of separation between the fragments is swelling of the soft parts and effusion into the joint, and that when swelling does not occur, or after it has subsided, it is easy to make the fragments touch. 3. That one of the chief causes of the frequent weakness of the fibrous union which results is the presence of fluid (synovia) between the fragments, and that it is not usually difficult, by ordinary means, to bring the fragments quite close enough to admit of union, were it not that the presence of fluid hinders its occurrence. 4. That a remarkable weakening of the quadriceps muscle is a common result of these accidents, sometimes amounting to absolute atrophy. That this partial or complete paralysis cannot be explained merely by reference to long rest of the limb, since the flexors do not share it. That it occurs in some cases in which the union is excellent. 5. That in almost all cases the quadriceps becomes slightly but permanently shortened by contraction, so that, however excellent the union may be, the knee cannot be bent without risk of stretching the uniting medium. That the chief danger after union consists in allowing the patient to bend his knee, and thus drag the lower fragment downwards, there being little or none in allowing him to use the quadriceps as an extensor. 6. That patients with absolute paralysis of the quadriceps are yet able to walk fairly, and suffer no inconvenience whatever from contraction of its antagonists. 7. That "bony union" is probably an exceedingly rare event, whilst close fibrous union is easy of attainment; that it is quite impossible to distinguish between the two in the living patient, and further, that all statements as to "bony union" are worthless unless made on examination at least a year after the accident. That the atrophic weakening of the quadriceps explains in many cases the

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, June 22.

patient's lameness, and that its frequent occurrence tends to reduce the temptation to resort to certain heroic and dangerous methods of keeping the fragments in apposition.

ART. 222.—*Fracture of the Patella.—Treated by Malgaigne's Hooks.*

By JOHN MORGAN, F.R.C.S.I., Surgeon to Mercer's Hospital, and to the Westmoreland Lock Hospital, Dublin, Professor of Surgical and Descriptive Anatomy, R.C.S.I.

(*Medical Press and Circular*, September 22.)

The following details are of interest, as showing a very perfect recovery by Malgaigne's hooks :—

P. D., a racket-marker, when tipsy, fell and fractured the patella by direct violence, as, on admission into Mercer's Hospital, the trousers were broken opposite to the fracture, and the skin was abraded. There was a T fracture of the patella, the lower fragment being split vertically, and there was considerable swelling. The limb was placed temporarily in an elevated position, and the fragments retained tolerably in their place by bandages. On the day after Mr. Morgan applied Malgaigne's hooks, fixing them well into the fragments, and drew them together till complete apposition was attained ; the leg was put in a moderately elevated position, and a cold lotion applied. From this date, to use the patient's own expression, he "never had five minutes' uneasiness," and at the end of six weeks the parts were examined carefully, when very perfect union was found to have taken place. The hooks were removed and plaister straps substituted, and he was allowed gradually to use the limb. He subsequently got an attack of bursitis, which lasted some weeks, and arose from his making too free.

The only inconvenience Mr. Morgan found was the pressure of the connecting bar between the hooks on the tumefied skin. This can be obviated by taking care that it is well elevated over the surface of the patella, and by inserting some wadding or lint.

The hooks were applied within forty-eight hours of the occurrence of the accident, and cold lotions were sedulously applied to reduce distension, and the subsequent attack of bursitis had no connection with their application.

ART. 223.—*Case of Dislocation of the Patella on its Vertical Axis Successfully Treated.*

By CAREY PEARCE COOMBS, M.B. London.

(*Medical Times and Gazette*, July 17.)

E. H., aged thirty, a strongly made country woman, was sitting on a heap of hay with her legs slightly bent, and resting on the heels. A young man came and sat himself violently down on her extended legs, and caused her great pain in the left knee, where she felt something

give way. When Dr. Coombs saw her, an hour or two after the accident, the leg was kept straight, and the least attempt to bend the knee gave her pain. There was a prominent ridge running vertically in front of the knee joint, produced by the outer edge of the patella, which might be felt under the skin, the bone being firmly fixed in the fossa between the condyles.

Flexion of the leg was of no use in attempting to reduce the dislocation, so Dr. Coombs resorted to violent extension in this way—She was on a mattress on the floor, and Dr. Coombs knelt by her side on one knee, resting her left heel on his other knee. He then made strong pressure on the lower part of the thigh with one hand, while with the other he pulled the edge of the patella outwards, when the bone slipped at once into its place.

The case is recorded on account of the rarity of the accident and the failure of the method recommended for its cure. The crucial ligaments must have yielded to allow the leg to be extended beyond the straight line (if the expression is allowable), but they probably had been much strained in the accident. No swelling followed the injury, and on the third day the knee had recovered so far as to allow the patient to use it in walking.

ART. 224.—*Traumatic Varicose Femoral Aneurism successfully Treated by Ligature.*

By JAMES SPENCE, F.R.S., Professor of Surgery, University, Edinburgh.

(*Edinburgh Medical Journal*, July.)

The author relates a case of this which he thinks worthy of publication, as he can find no mention of any instance of traumatic varicose femoral aneurism which has been treated on the same principles, whilst the method of treatment generally recommended, and which has been hitherto almost invariably adopted in such aneurisms at the bend of the arm, seems to him to be inapplicable, or at least attended with grave risks in the case of the femoral.

The subject of the case was a youth fifteen years of age, slender form, tall for his age, and delicate appearance, whom Mr. Spence was called to see 26th March, 1868. He had, about three weeks previously, been stabbed with a spear-pointed knife by a schoolfellow. Dr. Miller, who first saw him, found him lying on two chairs very pale and faint, in consequence of profuse hæmorrhage issuing from a wound in the upper and anterior aspect of the right thigh. The wound, which extended obliquely upwards, was about three-quarters of an inch in length, and one inch and a half in depth. After stopping the hæmorrhage and dressing the wound, I had him conveyed home in a cab. He progressed very favourably, and in ten days the wound had entirely healed, though the patient still continued weak. Perfect rest was still enjoined, but after a few days he could not be restrained from going out and walking about, though rendered lame by slight pain and stiffness of the tendons at the back of the limb, which, however, improved every day. He called

on me on Monday, 23rd inst., and stated that he had been to Leith on the previous Friday, that he had walked hurriedly home from the station, and for the first time felt 'a beating' in the part, but no pain. On examination, a little above the wound, I found a pulsating tumour, which I diagnosed as a false aneurism. He was ordered home, and enjoined perfect rest and quietness."

When examined by Mr. Spence he found on the right thigh, a cicatrix as of a punctured wound, situated on the outer border of the sartorius muscle, five inches and eight lines below the middle of Poupart's ligament. Extending from the puncture there was a pulsating swelling, not very prominent, somewhat flattened, of an elongated oval form, two and a half inches long by one and three-quarter inches broad. About two inches of the swelling were on the proximal side of the wound—*i.e.*, towards Poupart's ligament, and about half an inch on the distal side. Besides this distinct pulsating tumour, there was also an undefined fullness on the inside of the thigh, close up to Poupart's ligament, caused by the dilated femoral vein, and the upper part of internal saphena was also dilated. The aneurismal swelling at the wound was seen to pulsate, and the pulsation was very strong when the hand was placed on the tumour, and accompanied by a most peculiar thrill, almost startling, when first felt. On using the stethoscope, besides the "blowing" sound, there was also heard a loud buzzing or whizzing bruit, which has been not inaptly compared to the noise made by a "blue-bottle fly confined in a paper-bag." This latter sound was so loud as to be heard even at a little distance, and without the stethoscope. The thrill and whizzing murmur extended upwards from the wound both in the aneurismal tumour, and also in the dilated femoral vein as high nearly as Poupart's ligament, but they were much less distinct in the lower part of the aneurism—only barely appreciable. The pulsations of the anterior and posterior tibial arteries seemed rather weaker than in the sound leg. The patient felt the limb somewhat cold, but the thermometer showed no difference in the actual temperature.

I directed that he should be kept perfectly quiet in bed, with the thigh flexed on the pelvis, and that graduated compression should be maintained upon the common femoral artery, at the brim of the pubes, where it emerges from the abdomen, by Carte's compressor, modified so that the pressure was made by means of a leaden weight instead of the full screw action. He was ordered to have a nutrient, non-stimulating diet, consisting of milk, with white of eggs, and farinaceous and a little animal food. Under this treatment the pulsations and bulk of the aneurism diminished, but I found that the compression, though as far as possible limited to the artery, interfered with the venous circulation, and gave rise to so much pain and swelling in the thigh, and irritation of the inguinal glands, that it was obliged to be abandoned. Ice was then applied, over the swelling and to the groin, and was beneficial in allaying the irritation resulting from the compression, but it had little effect on the aneurism; and I therefore determined to operate so soon as the local irritation was subdued.

I had from the first contemplated the probability of an operation being required, and had carefully weighed in my mind what method of procedure I should adopt, and had decided to tie the superficial femoral

above and below the aneurism without opening the sac. Accordingly, on the 8th of April, 1868, assisted by Drs. Dunsmure, Gillespie, Littlejohn, Taylor, and Mr. Miller, I proceeded to perform the operation I had planned. The patient being put under the influence of chloroform, I made an incision seven and a half inches long, commencing about two inches below the middle of Poupart's ligament, and continued downwards in the course of the femoral artery. This incision passed over the long axis of the aneurism, and crossed the course of the sartorius muscle, so that I might reach the artery under the inner border of that muscle at the upper part, and under its outer margin at the lower part of the thigh. In making my incision I was careful to cut lightly over the tumour, so as not to divide more than the skin and fat. I next proceeded to clear the artery in the lower part of Scarpa's triangle. In doing so I found the parts more matted together and thickened, and the depth increased from the plastic and serous effusion to a much greater extent than the external appearances would have led me to expect. I required to take great care in clearing and drawing aside the inner edge of the sartorius, which, instead of being loosely connected as usual, was adherent. The sheath of the artery, however, was not so affected, and was readily recognised and carefully opened, and the artery cleared for passing the aneurism-needle. The vein, much distended, was felt bulging under the artery. The armed needle was then carefully passed round the vessel, the ligature left *untied*, and the ends held by an assistant. I next proceeded to tie the femoral below the aneurism in Hunter's canal. The fascia over the outer edge of the sartorius was freely divided, and the edge of the muscle cleared. Here a difficulty occurred, not from adhesion of the margin of the muscle at the part cleared, but owing to the body of the muscle over the aneurism being blended with the tumour, and forming part of the false sac. I found I could not turn over the muscle or draw it aside, so as to expose the aponeurosis covering the artery, without using such force as would have endangered breaking up the limitation of the aneurism. I had, however, foreseen this difficulty, and accordingly I divided about half the breadth of the sartorius, so as to expose and reach the vessel, which here lay very deep, the depth being increased by the proximity of the aneurismal tumour, as I wished to tie the artery as close to that as I could. When I had passed this ligature, I tied it firmly, and then proceeded to tie the upper ligature, which had also been applied as close as possible to the swelling. So soon as the upper ligature was tightened, all pulsation and sound ceased, and the appearance of tumour was almost effaced. The long wound was then closed by points of suture, a slip of dry lint placed over it, and retained by slips of adhesive plaster; the foot, leg, and knee were wrapped in cotton wadding, and the patient placed in bed, with the knee very slightly bent, and laid on its outside on a soft pillow.

When he recovered from the chloroform he was a little sick, and vomited. An opiate was administered. The milk and farinaceous diet was ordered to be continued. The patient progressed very favourably, and required little treatment, except medicine and enemata to act on the bowels, which were very constipated, so as to prevent straining at stool, and the wound healed well. No marked alteration in the temperature of the limb occurred after the first two days. On the twelfth day after

the operation, the lower ligature came away when I was dressing the wound, and without any appearance of blood. Slightly stimulating lotions were used to wash the points of the wound which had not cicatrized, and support was given by strips of adhesive plaster. On the 26th four drachms of blood came away from the incision after straining at stool. Dr. Dunsmure, who visited him, enjoined quiet, cold to the wound, and, as his tongue was loaded, ordered him blue and compound rhubarb pill; and consequently better diet, claret wine and iron. On the 11th May, Mr. S. found the patient looking very well, the wound healed, except at the ligature, which I found was lying loose, and therefore removed it. From this time nothing worthy of record occurred. He was allowed to walk, at first with a crutch, and subsequently to use the limb. He was lame for some time owing to the stiffness of the knee, but this gradually disappeared, and he now uses the leg perfectly. For some time after the operation I directed him to use a flannel roller to support the venous circulation in the limb. The cicatrix was narrow and firm; not the slightest pulsation or bruit to be felt or heard, no appreciable venous congestion, and his general health excellent.

To-day (10th June, 1869) I examined Mr. K——. As already stated, the aneurism is thoroughly cured; not the slightest pulsation or thrill can be felt; but the appearance of the limb indicates some obstruction or alteration in the venous circulation of the part. The right thigh is greater in circumference by one inch than the left. The swelling is neither tense nor œdematous, but soft and elastic. The cicatrix is thinner and broader than it was eight months ago; whilst towards the groin numerous small superficial veins are seen dilated and slightly tortuous; but the common femoral and great saphena veins, which were distended and varicose before the operation, seem now of their normal size.

ART. 225.—*Case of Ununited Fracture of the Femur—Treatment by Walking and Exercise of the Limb.*

By DR. MIGNOT.

(*Gazette Hebdomadaire*, No. 35.)

On Sept. 23rd, 1866, Gilbert Tarjaguet, a man-servant, aged twenty-six years, fell from a horse and was unable to get up without assistance. He was examined soon afterwards by Dr. Mignot, who found a transverse fracture of the right femur situated about two inches above the condyles. The limb was shortened and bent inwards. There was no wound nor excoriation of the integument. The fracture was reduced without difficulty, and the limb was fixed in Scultetus's apparatus. During the following three days the patient was restless and feverish, and complained of pain in the injured limb. The apparatus was removed for a time but soon replaced again, in consequence of a displacement of the fragments. On the eighth day the apparatus was again removed, and it was then found that the lower fragment had been

carried behind at the inner side of the superior fragment. On the thirteenth day of the treatment a small wound appeared over the limb at the extremity of the superior fragment. This did not communicate with the fracture; in consequence, however, of the patient's anxiety, the apparatus had to be removed every third day, in order that the wound might be examined. At the sixtieth day there was no consolidation of the fracture.

After a consultation the limb was subjected to forcible manipulation and traction, and by this proceeding the fragments were brought exactly end to end. The leg was then at once put in a suitable apparatus for preventing return of the displacement.

At the end of the next month it was found that the condition of the limb had not altered, consolidation had made no progress; the wound in the thigh had, on the other hand, increased, and the œdematous swelling of the leg also had increased.

Another attempt was made to keep the limb at perfect rest; but four months after the accident and fifty-seven days after the first consultation, the fragments were still moveable and there were no signs of the formation of solid callus. The patient, however, was in very good health, with the appetite good and no restlessness, but still much discouraged. The injured limb was much infiltrated, as if affected with elephantiasis, and was of a violet colour, the pus which flowed from the wound in the thigh was serous and sanguinolent; the whole limb, and chiefly the seat of fracture, was very painful.

Dr. Mignot attributed a portion of these symptoms to the too close confinement which had been kept up in order to maintain the fragments in position, and resolved to change the system of treatment and to attempt by removal of the constricting apparatus a modification of the vitality of all the tissues which were engorged more by a passive than by a plastic congestion. No amelioration followed, and the patient some twelve months after the accident was put under the care of Professor Fleury.

Various attempts were made by setons and other means to produce consolidation, but all without results. Professor Fleury finally proposed amputation of the limb, but recommended the patient to return to the country for a time in order to recruit his strength. Jarjaguet followed this advice, and went home to his wife in the commune of Saint-Germain. On his return in January, 1868, he was almost in the same state as he had been in some eight months before; he was compelled to rest continually in bed and could not raise the fractured thigh from the horizontal plane; the limb was much engorged and completely extended, in consequence of ankylosis of the knee and also of the hip which prevented him from sitting down. Two wounds existed near the ununited fracture, and discharged some sero-sanguinolent pus. The appetite remained good and the nutritive functions had suffered but slightly.

In the month of May, 1868, the patient was again, at his own urgent request, admitted under the care of Dr. Mignot, and determined to follow out any plan of treatment rather than undergo amputation. A fresh examination of the fracture showed that the extremities of the fragments, though moveable to a certain extent, were not separated very far from each other, and that in the position which they occupied reunion would

be readily accomplished if ossification could be once established between them—that it would be sufficient, in fact, to excite the formation of callus for producing consolidation without changing their position. It seemed to Dr. Mignot that the chief indication consisted much less in keeping the fragments in contact than in exciting their adhesion by a vital modification of the parts destined to take part in the formation of a solid callus; so that it became necessary to discontinue keeping the limb in a state of immobility, which had hitherto produced only ankylosis of the joint.

Some few days after the admission of the patient, M. Mignot proposed to make him walk. A simple band of canvas cloth was placed round the seat of fracture, and the remainder of the limb was left bare; the patient was then supported by two strong men, and placed his feet upon the ground for the first time since the accident. The blood descended with violence into the right limb, which became bluish and cyanosed. The first attempt at locomotion was a very feeble one, and the patient, after making about ten steps, was compelled to take to his bed.

On the next and following days the same exercises were performed in Dr. Mignot's presence. One of the first results of the removal of the bandages was to hasten cicatrization of the wound of the thigh; at the end of a month the extremities of the fragment appeared swollen; this swelling insensibly acquired more consistence and an increase in extent; at the end of August it presented the solidity and appearance of osseous callus; the patient, at this epoch, walked in the ward of the hospital, supported only by two high crutches. In November the man could raise, entirely by muscular effort, the fractured limb above the level of the bed. The pain caused by this proceeding was due chiefly to ankylosis of the corresponding hip. The œdema of the limb had sensibly diminished, and the old epidermis was replaced by a fresh layer.

In the month of January, 1869, the fracture was completely consolidated, with very slightly marked shortening. With the aid of a crutch, the patient would take a walk, and could mount and descend the stairs. The only impediment to these exercises proceeded from the rigidity of the limb caused by ankylosis of the knee and stiffness of the hip-joint.

Since his discharge from the hospital, the patient has recovered still more confidence in his walking and the different actions in which he is employed, but he has not yet been able to give up entirely the use of the crutch. The limb is not swollen, and the patient does not suffer from it. The tibio-femoral articulation now permits a slight degree of flexion; if this movement should become extended, as one may hope will occur with time and the action of mineral waters, every trace of the unfortunate accident will have disappeared.

Remarks.—Dr. Mignot begs to present, as a novel and, in many instances, an applicable, method, this plan of curing pseudarthrosis by the same means as have been charged with producing, under certain circumstances, the same kind of lesions. The exercise of a non-consolidated limb, condemned for eighteen months to complete immobility, resulted in the production of a salutary irritation around the extremities of the osseous fragments, which previously touched each other without any attempt at reunion. It is by taking account of the causes of this de-

fault of union that Dr. Mignot has been led to renounce immobility of the affected limb as a principal or accessory measure in all the cures of pseudarthrosis, and to adopt an entirely opposite proceeding, viz., exercise of the limb. He, in reality, and by an indirect path, arrived at the result which is sought for when the practitioner employs flying blisters, or cauterization, or the seton, in order to remove the local atony which prevents the formation of an osseous callus. M. Mignot arrived at this by two ways—1st, by suspending the method of treatment likely to favour this local atony, that is to say, removing the compressing bandages; 2nd, by exciting directly the circulation of the whole limb, particularly at the seat of fracture, by exercise and movement—powerful means, which might have overshot their mark if Dr. Mignot had not watched their application.

This method, of which no use had hitherto been made by the masters of surgery, is recommended, not on theoretical grounds alone. Dr. Mignot is acquainted with some instances in which poor peasants, the subjects of non-consolidated fracture of the thigh, had, nevertheless, attempted to take to their work, and at length had recovered the solidity of the limb, although remaining lame, in consequence, no doubt, of the formation of faulty callus. The successes of empiricism have always a scientific explanation, and form an experimental lesson which one may take advantage of by taking care to correct the gross errors. It was not difficult to Dr. Mignot to comprehend the sense of the cases just alluded to, and to make an application of it to the case he had to treat; and he felt justified in hoping that, by the pursuance of certain precautions, consolidation would be obtained without deformity of callus and the inconveniences which thence result; a perspective preferable to that of dangers resulting from such operations as resection of the osseous fragments, their perforation by pins or setons, and finally to the proceeding of amputation.

Success, M. Mignot states, has justified the attempt, in which he was guided by a rational method, and which should be recommended in like circumstances. It is evidently not suited to all cases of ununited fracture, but to those only where the default of consolidation is due to local atony. Its employment necessitates careful direction, as it may sometimes lead to serious consequences. It enters into the category of measures acceptable to conservative surgery. If one desires to know what is sometimes the cost of its success, it will suffice to read the clinical history of M. Mignot's patient, in order to see that it cannot be obtained without much time and much perseverance.

ART. 226.—*On the Diseased Elongation of the Bones of the Extremities in relation to Surgical Practice.*

By Professor LANGENBECK.

(*Berlin. klinische Wochenschrift*, June 28; and *British and Foreign Med.-Chir. Review*, October.)

Professor Langenbeck, in a recent paper read to the Berlin Medical

Society, draws attention to a consequence of disease of bone first noticed by Stanley, and further demonstrated by Paget. He observes, that until the twenty-third or twenty-fifth year, the bones may, under the influence of general disturbances of nutrition or local disease, undergo greater variation in form and size than the soft parts. In the rickety subject defective length is a more characteristic sign than either the curvature or the chemical condition of the bones. The influence of paralysis in checking the growth of bone requires more investigation, for while in some cases this is found to be imperceptible, in others it is very considerable. Affections of the epiphyses and of the joints will naturally give rise to considerable shortening, and all the bones of the same extremity may participate in this on account of the forced inactivity. The same effect is also observed when the joint itself is not diseased, but kept in a state of forced contraction; but here probably the result is a mechanical one produced by the altered mode in which the deposit of new bone is made. How small a power need be exerted to produce this effect is seen in the fact, that when fingers are united together, but are yet able to perform all their principal functions, their bones, if the web be not promptly divided, will remain shortened. In a still greater degree the same effect is exerted by cicatrices from burns in the neighbourhood of joints.

It is, however, to abnormal elongation of the bones that attention is chiefly directed in this paper. This may easily take place to the extent of one or two centimetres, or more, without detection, unless careful admeasurements be made. A long bone, as a general rule, grows longer and thicker in proportion as it has been in an inflamed or hyperæmic condition, and a hyperæmic condition of the soft parts is also competent to produce this change. Thus, in a case of inguinal aneurism, Broca found that the femur had increased two, and the tibia one centimetre in length. Ulcers of the leg occurring early in life produce the same effect; and although chronic inflammation and caries of joints exceptionally arrest the growth of bone, in other cases they lead to its elongation. The great majority of cases of increased growth, however, arise from chronic disease of the diaphysis of the bone, *i.e.*, osteomyelitis or necrosis.

A very interesting case is given in which careful admeasurements were made at the autopsy, and all the bones on the diseased side were found considerably longer. A remarkable appearance noted was the diminution of the circumference of the upper articular surface of the tibia by one, and of the lower surface by half a centimetre. This may be attributed to the fact of the greater longitudinal development of the diaphysis having taken place at the expense of the epiphysis. In the arrested growth of the rickety bone, on the contrary, the circumference of the articular surface is increased. The fibula, in the above case, although not diseased, had increased by two centimetres in length, like the tibia. Another important point was, that the femur of the same side also underwent considerable elongation, for while the tibia was found to have increased by two centimetres, the whole limb, measured carefully during life, was found to be five centimetres longer than the other. Similar observations are reported by Paget and Bergmann;

and Langenbeck has met with the same circumstances in the upper extremities.

Bearing the above facts in mind, it occurred to Professor Langenbeck whether they might not have their surgical application in the treatment of shortening of the bones of the extremities. As necrosis occurring in young subjects is the most frequent cause of abnormal elongation of bone, and is probably due to the abiding stimulus of the sequestrum, it might be expected that the insertion of a foreign body in the bone would be attended by a similar result. He therefore instituted some experiments on young dogs, employing Dieffenbach's ivory pegs as having a near resemblance to bony structure. These were followed by most favourable results, the effects being in fact just the same as those observed in necrosis, viz., an elongation and thickening of the shaft, and a lessening of the epiphysis. Moreover, the bone remained undistinguishable in any other respect from normal bone, being neither inflamed nor in any way diseased. So the matter stands at present, for although Professor Langenbeck believes that surgical interference will be advantageously employed in this direction, he has not yet resorted to it. He observes, that while a few centimetres shortening is of little consequence as regards the upper extremity, it is of serious import in the lower, and any reasonable means of removing it or diminishing it should be employed. Excision of the joints in children will acquire an additional importance also, if we are enabled by the introduction of one or two of the pegs immediately after the operation to prevent the arrest of growth in the limb. Subjects suffering from paralysis are favourable for the trial of the means, as they will with less difficulty sacrifice the five or six months necessary to be passed in quietude to secure the success of the experiment. One of the most important results of the trials made on dogs is the demonstration of the efficacy of extension in elongating bone. The fibula, to which nothing had been done, was found to have increased two centimetres as well as the tibia, and yet to have undergone no displacement. This was effected by the stretching effect exerted upon it by the tibia, to which it had become united in one bony mass. Of the possibility by suitable extension of increasing the length of shortened bones, there can be no doubt, although the determination of the amount of this by admeasurement is very difficult.

ART. 227.—*A Case in which Aneurisms of the two Popliteal Arteries were cured by Digital Pressure, the one in twenty-four hours by Students, the other in four hours and a half by the Patient; with Remarks.*

By THOMAS BRYANT, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Medico-Chirurgical Review*, October.)

The title of this paper explains its chief features. The patient was a policeman, who was cured of an aneurism of the left leg by the means

described, and after he had left the hospital and had resumed his duty, he became the subject of another aneurism in his right leg. As he had gained experience in the hospital by observing the means taken to cure the former aneurism, he determined to try the same means himself, and by alternately pressing with his right and left hand for four hours and a half, he succeeded in effecting a second cure. Mr. Bryant remarks that digital pressure, when well applied, is better than instrumental; but what is wanted in the former case is steady, equal pressure, made by persons well acquainted with anatomy, and who press only the artery itself, and not the surrounding vessels and nerves. He thinks that three men might readily take charge of such a case for four hours and a half without fatigue.

ART. 228.—*On a Case of Popliteal Aneurism.*

By JAMES F. WEST, F.R.C.S. (Exam.), Senior Surgeon to the Queen's Hospital, Birmingham.

(*The Lancet*, July 17.)

From the notes of this case, it appears that low diet, rest, digitalis in full doses, the application of ice, the administration of acetate of lead, flexion, instrumental compression, and, lastly, digital compression, were each in succession employed without producing any permanent benefit; and that at last, after the failure of these various measures, each of which has its advocates, and has been known to prove highly successful, the Hunterian operation, or ligature of the femoral artery some distance above the seat of the aneurism, was had recourse to, and sufficed to effect a cure.

One caution Mr. West gives in reference to treatment after the operation. It is that we should not be too anxious for the ligature to come away, and therefore that we are not to be pulling at it day after day, as he has seen done, to ascertain if it is ready to come away. In the case recorded it did not separate till the twenty-fourth day, and then it was discharged without any traction being made upon it.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 229.—*Anatomico-Physiological and Practical Considerations on Pregnancy and Delivery.*

By Dr. MARTINELLI, of Batignolles.

(*Gazette Hebdomadaire*, No. 35.)

The following report on Dr. Martinelli's researches was presented to the Académie de Médecine by Dr. Devilliers.

Dr. Martinelli in his contribution was chiefly interested in the part taken by the pelvic symphyses and by the accessory muscles in the mechanism of delivery. He thinks that the fibrous tissue of the symphyses undergoes a transitory modification, and that, in great part, it is converted into elastoid tissue, a new condition which permits a feeble degree of mobility. The articulations thus constituted may undergo a certain diduction under the influence of the action of the pelvic, abdominal, and crural muscles.

Dr. Martinelli distinguishes the abdominal muscles of the pelvis, which are the anterior recti muscles of the abdomen thrown a little to each side by the extension of the linea alba, the external and internal oblique muscles, and the transversales, the lower part of which in contraction excites an action upwards, forwards, and outwards upon the pubis on each side. The central portions of these muscles concur in the extension of the linea alba. The superior portions in combining with the diaphragm depress from above downwards the convexity of the abdomen and cause it to project more in the umbilical region, in such a manner as to act fully the office of a pulley, upon which the contractions of the inferior fibres bear in bringing about a diduction of each os pubis.

During the movements of abduction and elevation of the abdominal muscles, the posterior spinal muscles increase by their contraction the sacro-vertebral projection and tend to carry the pubis backwards and downwards; whence the two movements in an inverse sense, producing a lesion at the level of the sacro-iliac articulation. The tension of the ligaments, which is the consequence of this action, explains the pains in the lumbar region, which may be relieved by elevating the sacral region and relaxing the spinal muscles.

The femoral abductors of the pubis, the pectineus muscle, and the

adductors of the thigh, exert a very efficacious action, especially when labour is difficult. They associate their action with that of the abdominal abductors, and it is to them that it is necessary to refer the ruptures of pubic ligament that have been mentioned by authors. This second series of muscles replaces the abdominal abductors when the head of the fœtus is engaged in the excavation of the pelvis. The action of the femoral abductors of the pubis is increased by causing the woman to make efforts of adduction of the thighs, at the same time that the lower limbs are kept separated.

To the action of the above-mentioned muscles must be added that of the reflected portion of the psoas and iliacus, which by its action outwards and backwards, concurs in the accommodation of the pelvis for the passage of the fœtus.

ART. 230.—*On the Recognition before Birth of the Situation of the Placenta.*

By Dr. PFEIFFER.

(*Monatsschrift für Geburtskunde*, xxx. p. 112 ; *Schmidt's Jahrbücher*, No. 6.)

Dr. Pfeiffer believes that he has often succeeded in feeling the placenta by palpation through the abdominal walls before birth, and consequently in recognising the position of this organ. For this purpose it is of course a necessary condition that the placenta be seated on the anterior wall of the uterus ; it is felt much less readily when it is placed at the fundus, and with very great difficulty, and frequently not at all, when it occupies the lower segment. Emaciated abdominal walls with a thin uterine wall, and also a great thickness and distension of the placenta, favour its discovery ; sometimes labour pains, but generally a state of rest, are most favourable. Under these conditions one can feel, on firm pressure over the abdomen with one or both flattened hands, a small segment of a ball, apparently placed upon a larger sphere, and of a peculiar firm and elastic consistence, which is distinct from the rest of the uterus where the fœtus can be felt, and corresponds in its consistence to a spongy body fitted with circulating blood. This is the placenta.

ART. 231.—*The Oxalate of Cerium in the Vomiting of Pregnancy.*

By J. WARING CURRAN, L.K. and Q.C.P.I., L.R.C.S.I., &c.

(*Medical Press and Circular* July 14.)

The object of the present paper is to bring more prominently forward the valuable therapeutic action of the oxalate of cerium in controlling the distressing nausea of pregnancy. Mr. Curran administers it in the form of pills as follows :—

℞ Ceri oxal.
Ext. lupuli aa gr. 24.
Div. in pil. xij, cap. j ter in die.

and at the same time exhibits bromide of potass in ten-grain doses with the tincture of yellow cinchona bark and spirits of ammonia. The mixture and pills appear to constitute a most successful plan of treatment.

ART. 232.—*Electricity in Parturition.*

By M. DE ST. GERMAIN.

(*Medical Times and Gazette*, November 18.)

M. de St. Germain, at the last meeting of the Société de Chirurgie, communicated the results of some experiments he has recently made at the Maternité on the application of electricity in labour. Engaged to write an article for the "Dictionnaire de Médecine" on the surgical and obstetrical applications of electricity, and believing that little had been done in illustration of the latter, he undertook an investigation himself. Although this had been pursued in only twelve cases, he found the action of the electrical current was so marked as to lead to what he believed some novel conclusions. He was informed afterwards, however, of the researches of Barnes and Radford in this direction in 1854, and of the favourable opinion they entertained of the agent. His own conclusions are as follows:—

"1. In no case have uterine contractions been induced where they have not already spontaneously commenced. This explains the discredit into which the electrical current has fallen as a means of inducing premature labour.

"2. Wherever labour pains have commenced, occurring at intervals of fifteen or twenty minutes, on the application of the conductors to the lateral parts of the abdomen, we have *constantly* found, and that in about ten minutes, a remarkable increase of the uterine contractions.

"3. We have also found that contractions so induced are much more prolonged and more painful than others.

"4. The dilatation of the os uteri has constantly taken place with rapidity.

"5. A fact to be particularly insisted upon, especially as it is not noticed by Barnes and Radford, is that the expulsion of the placenta immediately follows that of the infant, being either spontaneously projected beyond the vulva or capable of removal without the slightest traction.

"6. In two cases only the infant exhibited a slight bluish colour, but in these the cyanosis could be explained by constriction.

"7. To sum up, without partaking of the enthusiasm exhibited by Barnes for the application of electricity in delivery at full term, we believe that this method deserves being submitted to a prolonged and severe investigation, and that, if new and numerous trials confirm the results thus far obtained, the application of electricity as an agent in the rapid expulsion of the placenta must be considered as a gain."

ART. 233.—*The Pain of Parturition and Anæsthetics in Obstetric Practice.*

By A. E. SANSOM, M.D.

(*Transactions of the Obstetrical Society of London*, vol. x.)

Dr. Sansom maintains that experience shows that chloroform properly administered to annul the pain of natural labour, is absolutely free from danger to life. He also insists that the action of chloroform and the other anæsthetics is primarily upon the nerves of sensation and not upon those of motion: and, further, that to relieve the pains of natural labour only, small doses and the early influences of an anæsthetic are necessary, which conditions can be fulfilled without depression, but with rather an exaltation of the forces of the circulation. Chloroform, administered according to definite principles, and in a careful manner, Dr. Sansom believes to be the best of all anæsthetics in midwifery practice. Concerning it, he believes the following points to be determined:—1. That small doses, and the early stages of its influence, are necessary. 2. That administered in this mode, and to this extent, it is innocuous, and even exalts circulating power. 3. Large doses are quite unnecessary for the fulfilment of the conditions of obstetric anæsthesia. And—4. Large doses, and particularly large proportions, are dangerous, by producing paralysis of the circulation. Dr. Sansom thinks that it is incumbent on the practitioner to dilute the chloroform which he exhibits. This dilution may be effected by air by means of a proper instrument. By volatile media, as in Mr. Ellis's plan; by the use of anæsthetic mixtures, which act partly by the dilution with the vapour of the anæsthetic commingled, and partly by retardation of evaporation.

Dr. Sansom feels himself assured by many experiments on the following points:—1. That the best anæsthetic mixture is one of chloroform and absolute alcohol. 2. That the principal value of the alcohol is to retard too rapid evaporation of the chloroform. 3. That by means of this mixture the regulation of the atmosphere inhaled is effected with sufficient precision for all practical purposes. 4. That the anæsthetic mixture to be recommended in obstetric practice should consist of one part of chloroform to two of absolute alcohol.

ART. 234.—*New Method of Embryotomy.*

By ROBERT BARNES, M.D., F.R.C.P.. Obstet. Phys. and Lect. on Midw. and Dis. of Women and Children, St. Thos.'s Hosp.

(*Medical Times and Gazette*, June 19.)

Dr. Barnes described and demonstrated before the Obstetrical Society of London (June 2nd, 1859), a new method of embryotomy, by which a mature fetus could be extracted through a pelvis measuring not more than an inch in the conjugate diameter. He observed that the rule of conduct justifying embryotomy was the same in extreme cases of de-

formity as in slighter cases. In the case of a pelvis contracted to three inches in the conjugate diameter it was justified by the presumption that by it the mother was saved from danger. So, in the case of contraction to two inches or one inch, it was on the same principle justifiable. The difficulty was to carry out the proceeding with reasonable safety to the mother. He had long felt that if the problem how to extract a mature foetus through a pelvis narrowed to one inch without injuring the passages were put to any of our great engineers, a solution would be found. He felt that the problem ought to be solved, so that the Cæsarian section, if not eliminated, might at any rate be still further restricted. Van Huevel's forceps-saw cut up the child's head by making a chain-saw travel up from the shanks of the forceps blades. But in extreme distortion there was not room for the blades to pass. His (Dr. Barnes's) operation consisted in passing a loop of strong steel wire over the head by means of Weiss' *écraseur*, and then making sections. Dr. Barnes showed the operation. He regretted that a pelvis having nearly two inches in diameter had been sent instead of one with only an inch, and that he had only been able to procure a seven months' foetus; but the operation was quite feasible under the conditions he had stated. Dr. Barnes first perforated the head, then introduced the crotchet to steady it, then passed the wire loop into the uterus, which could be done by compressing it; and when the loop is sufficiently high, by removing the compression it opened by its elasticity, and was made to seize the head in its circumference at the occipital end. Then, by working the screw, the wire made a clean section of the head, taking off all the posterior part: this part was then removed by craniotomy forceps. Then the wire was reapplied in the longitudinal direction of the head, seizing under the jaw and ear, and another section made through the base of the skull. This was commonly enough. The remains of the head were then seized by Dr. Barnes's craniotomy forceps, and easily drawn through the pelvis. Then there was the body, often opposing great difficulty. This he overcame by perforating the chest, by hooking the crotchet in the axilla of one arm to draw it down within reach of the embryotomy scissors to cut off; then the chest walls were cut up by the embryotomy scissors and drawn through the pelvis, either cutting off the other arm previously or not. The operation had this great advantage over the old crotchet and craniotomy forceps operations—that it involved little or no pressure or contusion, or dragging upon the uterus or other soft parts. The wire buried itself immediately in the head, and no bulky instruments or manœuvres bruising the soft parts were necessary. In answers to Dr. Tyler Smith, Dr. Barnes said he had not yet performed the operation on the living subject.

ART. 235.—*Uterine Hæmorrhage after Labour.*

By ROBERT BARNES, M.D., F.R.C.P.

(*The Lancet*, December 11.)

At a meeting of the Obstetrical Society of London, held Nov. 3rd, Dr. Barnes read a paper on *Uterine Hæmorrhage after Labour*.

The author endeavoured to define the conditions upon which arrest of hæmorrhage after labour depended, the action of the remedies in common use, and the indications for resort to particular remedies. The remedies almost exclusively used depended for their efficacy upon their power of exciting contraction of the uterus: this presupposed nerve force enough to respond to excitation; but when this was exhausted, remedies failed. It became then necessary to seek a new power that would act under the condition of exhausted contractility. This was found in styptics like perchloride of iron, which acted by coagulating the blood in the mouths of the open vessels, and corrugating the inner surface of the uterus. Acting exactly when ordinary means failed, it was a new power to save women from dying of hæmorrhage. Examining the action of ergot, compression of the uterus, and cold, he urged that these should not be trusted if they failed to act quickly; for if they so failed it was probably because contractility was gone. If persevered in beyond this point, they did harm. Ergot and cold added to the depression; kneading might bruise the uterus; all were apt to occasion some form of puerperal fever. The perchloride had in several cases been followed by death, when used for injecting nævi; but this case was essentially different from that of injecting the uterus. In his own practice he had observed three orders of cases. In the first all recovered well, the hæmorrhage being immediately stopped; in some of these death would almost certainly have ensued but for the remedy. In the second series recovery occurred, phlegmasia dolens supervening; but phlegmasia dolens was not unusual after severe hæmorrhage, and some of these cases would have died but for the remedy. In the third, death followed, but the patients were moribund when the remedy was applied; it came too late: here the remedy was transfusion. The practical lesson resulting from a review of these cases was to observe the rule he had laid down, not to persist too long in the use of cold, kneading, and other remedies, but to resort to the perchloride before collapse had set in. Dr. Barnes showed a convenient case constructed by Krohne and Sese-mann, containing a set of his dilators, a Higginson's syringe with uterine tube, and a bottle for perchloride of iron.

Dr. Rogers could most cordially agree with every word of Dr. Barnes's admirable paper. He (Dr. Rogers) had first used the perchloride some fifteen years ago in post-partum hæmorrhage, having failed with a strong solution of alum. He had since then employed it five or six times, and in every case successfully. He thought Dr. Barnes had omitted the mention of galvanism, on which he placed some reliance, and which had been advocated by his late friend, Dr. Mackenzie.

Dr. Cleveland thought one of the difficulties in the treatment of post-partum hæmorrhage consisted in determining when the means in general use should give way to the remedy recommended by the author. It was difficult, too, when single-handed, to leave the patient for ever so short a time to prepare an injection. He had himself used an 8-oz. india-rubber bottle, to which was easily attached a flexible male catheter. This could be used more readily than a Higginson's syringe, and with less risk of injecting air. He would inquire if the author had used emetics, as he had himself witnessed the good effect of vomiting on more

than one occasion. He would also ask if the free use of stimulants, especially at the commencement of flooding, was not open to objection.

Dr. Wynn Williams was hardly prepared to hear that the knowledge of perchloride of iron, as a styptic in these cases, was as limited as the author supposed. He himself had used it for a long time, although not exactly in the same manner as the author of the paper, but in a way which he might call the ready method. This consisted in taking a sponge, on which some of the tincture of the perchloride had been poured, and passing it into the uterus through the hollow of the hand already introduced, after of course previously emptying the uterus of clots, and then sponging the interior of the uterus with it, leaving it in the uterus if seen fit, with a string attached. He thought this plan less objectionable than injecting a considerable quantity of fluid. The stains on the hands of the operator were readily removed by a solution of oxalic acid, or salts of lemon.

Dr. Braxton Hicks most cordially agreed with the whole paper. He wished to add, however, a few remarks. In the first place, he thought there was a considerable difference in different cases as to the condition of the internal surface of the uterus after the expulsion of the placenta. In some uteri examined after death, the large apertures of the sinuses described by many authors were absent. There were, of course, the arterial openings, and those of their return veins, of considerable size certainly, but not very large. In others, it would be found that the sinuses, in their oblique passage through the uterine walls, occasionally abutted on the line of separation of the placenta decidua. When the placenta was removed, then the feeble wall gave way, and severe loss would result, unless the uterus contracted quite firmly. In the former case it did not require that severe uterine contraction, and the perchloride would readily act. In the latter it would probably be found that even the perchloride would fail to arrest this great stream. Enormous gushes he believed to be the result of a pre-accumulation which had been going on unobserved. To one class of cases Dr. Barnes had not alluded—*viz.*, placenta prævia, where the cervical zone was relaxed after delivery. In these, the perchloride applied to the surface was of much value. In severe cases of abortion, also, when the uterus had been emptied, he had used it frequently with complete success, and without any untoward result. He used a somewhat weaker solution than Dr. Barnes.

Dr. Hall Davis could add his testimony to the value of the iron solutions. He had used them for several years among his hospital patients; scarcely a week passed without his resorting to them. He had used the perntrate, the persulphate, and the perchloride, and had found them about equally efficacious. It was of the utmost importance, before using them, to empty the uterus of any contained clots, that the styptic might fairly come into contact with its internal surface.

Dr. Playfair referred to the importance of aiming at the prevention of post-partum hæmorrhage, and urged the careful following down of the contracting uterus with the hand. On the subject of the value of the perchloride, he could but add his testimony to that of the previous speakers.

Dr. Tyler Smith, after eulogizing the paper of Dr. Barnes, said that he believed that few cases of dangerous flooding would occur if in all cases a full dose of ergot were given immediately after the birth of the child. It would, in his opinion, be a vast improvement in obstetrics if the forceps could be substituted for ergot, as now often given during labour; and if the ergot were administered habitually at the moment of birth, or while the head was passing the vulva. Besides the prevention of hæmorrhage, subinvolution of the uterus would become less frequent. This rule of giving ergot had been extensively followed, by his advice, and with the best results, in India, where flooding was still more common than in this country.

Dr. Aveling feared that the styptic fluid might enter the circulation and produce thrombosis. He thought the principle good, but that the sponge plan of Dr. Williams might be safer than Dr. Barnes's. He would like to have heard some reference to transfusion.

The President thought the profession would be gratified in hearing, through the medium of this society, the opinions of so many distinguished men on this important subject. After the decided opinions expressed in favour of the perchloride of iron, its use, so ably advocated by Dr. Barnes, would probably become more extended. As a preventive of hæmorrhage he had great belief in pressure, and in fact the only cases in which he had seen hæmorrhage fatal under his own care were cases in which, unusual attention to the child being required, the uterus had not been uninterruptedly watched over. Transfusion, to which Dr. Aveling had alluded, was adapted to cases of a somewhat different nature, where the hæmorrhage had ceased.

Dr. Barnes, in reply, said he had not forgotten either the subject of transfusion or prevention, but the problem set in this paper was how to deal with hæmorrhage when present. With regard to electricity, he had preceded his friend, the late Dr. Mackenzie, in proving the power of faradisation in causing uterine contraction, but he had abandoned it, because it was inconvenient, often intensely distressing to the patient, and inferior to other means. As to Dr. Hicks's remarks upon the frequent absence of large openings of sinuses on the inner surface of the uterus, he reminded the Society that the obliquity of the openings rendered it very difficult to find them; and that Dr. Chowne and others, by injecting the vena cava backwards showed that water would escape in torrents on the uterine surface. With reference to priority, he must say that he was surprised to hear such very general expressions of approval of the treatment; but that it was not yet a recognised plan was proved by the absence of mention of it in our text-books. It appeared to have been first used by D'Outrepoint; it was pointedly recommended by Kiwisch in 1840; his own first published recommendation of it was in his "Lettsomian Lectures on Placenta Prævia in 1857," and of course he had used it before that date. In conclusion, he expressed his belief that the perchloride of iron would come into general use as a recognised plan of treating uterine hæmorrhage.

ART. 236.—*On the Use of the Short Forceps in Midwifery Practice.*

By THOMAS MOORE MADDEN, M.R.I.A., Assist. Physician to the Rotundo Dublin Lying-in Hospital.

(*Medical Press and Circular*, September 22.)

Having described the short forceps, and pointed out the cases in which it should be resorted to, Dr. Madden states the manner in which this instrument should be used.

In the first place, ascertain if the rectum has been properly cleared out or not, and, if it has not, administer a purgative enema, and wait till it has operated before doing anything else.

The next point to be attended to before introducing the forceps is to pass the catheter, and this must be done even when we are assured by the nurse that the patient has made plenty of water.

A digital examination is then to be made, in order to ascertain the exact position of the head, and convince ourselves of the fact that the os uteri is fully dilated or dilatable.

The operator now sits down behind his patient, facing the perinæum, and introduces the index and first fingers of his right hand, previously smeared with lard, up into the vagina behind the symphysis pubis, and passes them round half the circumference of the pelvis on the child's head until he comes in contact with the ear, which is generally towards the left iliac region, and sometimes on the right or towards either side of the pelvis. The ear should always be felt distinctly before the short forceps are introduced, and although some recent writers do not approve of this rule, yet Dr. Madden always acts on it in his own cases.

The reasons for applying the forceps over the ear are, that the instrument, fitting better over the sides of the head and face, exercises a more equable pressure on the head, and is less liable to slip than when placed in any other position.

Before being introduced, the forceps must be brought as nearly as possible to the temperature of the body, then smeared with lard, the upper blade, the first to be introduced, is taken in the operator's left hand, and, being held as lightly as a writing pen, is, during an interval in the pains, to be slowly insinuated by a gentle wavy motion, between the two fingers of the accoucheur's right hand, which rest over the ear, and the child's head, until it has passed so far up that the lock lies close without the perinæum. The anterior, or pubic, blade is always introduced first in the Rotundo Hospital, but in England the reverse is generally the case. The instrument must, in the first stage of the process, be passed upwards and backwards in the direction of the lower axis of the pelvis, but almost immediately it must be turned in the axis of the upper portion of the pelvis upwards and forwards.

The point of the blade is to be kept in contact with the foetal skull, as the moment it diverges from it, the least degree of force might drive the instrument through the vesico-vaginal or recto-vaginal wall, the direction of the point being determined by the angle at which we keep the handle, so that, except at the moment that the instrument passes over

the ear, when the handle must be depressed a little during the introduction of the blade, the handle should be gradually raised as the forceps slides over the convex head of the child.

The handle is then to be given to an assistant to retain *in situ*; the operator, holding the instrument with the right hand, introducing two fingers of the left in the same manner as before, passes up the other blade of the instrument, until the locking parts of both are opposite each other, when, having passed the finger round the lock to guard the soft parts from being caught by it, the forceps may now be locked.

In locking the forceps, as in its application, force is unnecessary and unjustifiable. If the blades have been properly introduced and applied to the head, there will be no difficulty whatever in locking them. If they are not properly adjusted, no degree of force can be of the least use, and as it is essential that the forceps be properly locked before any attempt at extraction is made, if there should be any difficulty in locking, no time should be lost in trying to bring the instrument into apposition, but the blade last introduced must be at once withdrawn, and reintroduced in the right position.

The extraction of the head is generally the easiest part of the operation. The operator, bearing in mind that the axis of the pelvis is a curved line, the axis of the inlet being downwards and backwards, and that of the outlet being downwards and forwards, makes his traction to correspond with this. At first he pulls downwards and backwards, and, as the head descends, alters the direction of his force until the head comes to distend the perinæum, when he draws the head directly forwards.

As a rule, delivery with the forceps should be as close an imitation of natural labour as possible—that is to say, bearing in mind that in natural labour the advance of the head is so slow and gradual, that the progress effected by each pain is almost imperceptible, the forceps should be so gently used as to imitate in the slowness of its action the course which nature herself points out.

The powers of the instrument should be exerted in the most gradual manner, except in certain cases of complex labour, where immediate delivery is essential, and no attempt at finishing a tedious labour by any sudden and forcible effort is justifiable; nor should any desire to relieve his patient from suffering, or himself from a wearisome task, induce the practitioner to attempt by force what time, patience, and skill can alone safely accomplish.

The old rule of waiting for a pain before commencing to draw down with the forceps, and of acting in concert with the uterine expulsive efforts, is obviously well founded, and should be acted on whenever the pains have not ceased before the forceps have been applied.

As soon as the occiput escapes from the vulva, it is generally advisable, in order to prevent the risk of lacerating the perinæum, to trust the case to nature, and if there be sufficient uterine action to accomplish the labour, the instrument should now be unlocked, and the posterior and then the anterior blade gently removed, and the head forced out by pressing well on the perinæum during the pains.

After the head has descended into the pelvic cavity, the short forceps may be used in three different positions:—

1st. Where the head is delayed at the outlet, the face lying in the

hollow of the sacrum, the occiput under the arch of the pubis, and the sagittal suture lying in the perinæum, the ordinary position at the end of the second stage of natural labour.

2nd. When the labour is delayed by the mal-position of the head, the face being turned forwards towards the symphysis pubis, the occiput and vertex being opposed to the sacrum and perinæum.

3rd. Where the face lies to either side.

In the first position, delivery according to the rules already laid down is generally easy enough. In the second variety of position, the lock will be at the vertex and the point at the chin, and, by depressing this, the occiput will be drawn forwards from the perinæum. The management of the third position demands no special mention.

Forceps cases require to be very carefully watched during the period of convalescence after labour. As a rule, if the operation has been properly performed, the recovery of the patient will be as speedy and perfect as after a natural labour. But, even after the best obstetric operations, peritonitis, metritis, puerperal fever, inflammation of the pelvic structures, may follow an instrumental delivery. This fact should be borne in mind, so that the moment the earliest premonitory symptoms of any of these diseases manifest themselves, they may be at once met with the appropriate treatment. After all cases of protracted labour, and especially after forceps cases, the state of the urinary function should be watched closely for the first few days, and if there be any retention, the catheter should be used at least twice a day.

ART. 237.—*On the Treatment of Laceration of the Perinæum immediately after Delivery.*

By JOHN BRUNTON, M.A., M.D., Surgeon to the Royal Maternity Charity, London.

(*Glasgow Medical Journal*, November.)

If the laceration be up to the sphincter ani, but not through it, all the treatment that is necessary is to tie the mother's knees together, and pay strict attention to the cleanliness of the injured parts. Dr. Brunton adopts the plan of expelling all clots from the uterus and tight-bandaging the patient, putting a compress over the uterus for the purpose of keeping up its contraction, and thereby reducing the lochial discharge to a minimum, and having the vagina daily washed with a solution of Condé's disinfecting fluid. It is obviously necessary in so doing to use a syringe with a small tube, else the parts would be disturbed. It is also advisable to avoid purgative medicines for a week or so, and to give a light but nutritious diet, such a diet as will produce as little fæces as possible.

Dr. Brunton narrates three cases of laceration through the perinæum, treated, immediately after delivery, by passing three silver sutures with a curved needle deeply through the torn sphincter. No chloroform was given, and it is stated that the mothers *did not complain at all of the passage of the needle*. The after-treatment consisted in daily syringes of the vagina with a tepid solution of Condé's fluid, constipation of the bowels by means of opium pills, and rest in bed. In the first case the

sutures were removed on the seventh day, and on the tenth an enema was administered.

Dr. Brunton remarks:—

1st. That the result of his operations is very satisfactory.

2nd. That the operation is very easy.

3rd. That it is comparatively free from danger, and is nearly painless, requiring no chloroform, because the parts which have been torn are in an anæsthetic state, being benumbed by the pressure they have recently undergone.

ART. 238.—*On Post-Partum Hæmorrhage.*

By ROBERT BARNES, M.D., F.R.C.P., Lecturer on Midwifery and Diseases of Women, St. Thomas's Hospital.

(*The Lancet*, January 30.)

Dr. Barnes gives the following account of the method he adopts:—

"A very convenient preparation is the *Liquor ferri perchloridi* fortior of the British Pharmacopœia. Half a pint of this may be carried in the 'obstetric bag,' and when wanted it may be diluted to a quart by adding a pint and a-half of water. This dilution should be put into a small deep basin. The syringe most convenient is Higginson's, fitted with a uterine tube about nine inches long. My syringe has a common mount, which is made to fit either the elastic dilators or the uterine tube. Care should be taken that the air is not sucked up into the syringe. To avoid this, keep the entrance-tube of the syringe at the bottom of the fluid, and pump through back into the basin until the syringe is filled with the fluid. The apparatus being ready, pass the left hand into the uterus, clear away all the placenta and clots, then slip up the uterine tube along the palm of the hand, so as to carry the end of the tube up into the fundus of the uterus; then compress the syringe gently and steadily, so that the fluid may trickle down over the whole inner surface of the uterus. The pumping may be repeated until the basin is *nearly* emptied—not quite, lest the air be taken up. As the iron acts by coagulating the blood in the mouths of the vessels, and mere contact is enough for this, it is unnecessary to pump with any force.

"The effect of this injection is to corrugate the inner surface of the uterus, and commonly some degree of the muscular contraction follows. I have hardly ever known any more hæmorrhage to occur after one injection. Henceforth the patient is safe from further loss; and if not already too far exhausted by previous loss, there is nothing to prevent the patient's recovery.

"I have practised this plan for several years, and in a great number of desperate cases, where kneading, compression, ergot, cold in every form, had failed, and I have seen no bad consequences from it. Practised with the precautions I have laid down, I believe it is in itself safe, and I am certain that not a few lives have been rescued by it from otherwise imminent death.

"I have also used it in cases of excessive flooding attending abortion. But where the uterus is small, and the cervix not admitting more than the finger, I now prefer to apply the styptic on a swab, such as a common probang. I have a strong suspicion that in one case of early abortion, an injection made too forcibly by means of a caoutchouc bottle was the cause of a fatal catastrophe. The patient died almost suddenly soon after the injection, with symptoms resembling those consequent upon air entering the circulation.

"This, the only accident I am acquainted with, suggests caution. But in a desperate emergency, like flooding, we must be prepared to encounter some risk, rather than suffer the patient to lose that last little stock of blood in which the life of the patient lingers."

ART. 239.—*Concealed Accidental Hæmorrhage of the Gravid Uterus.*

By WILLIAM GOODELL, M.D., Physician in Charge of the Preston Retreat, Philadelphia.)

(*American Journal of Obstetrics*, August.)

The author relates the following case which came under his own observation, and adds brief notes of 105 examples of this rare complication:—

"C. M., aged thirty, a pale-looking Irishwoman, eight years married, was admitted into the Preston Retreat, September 4th, 1866. Has had four labours at term, each requiring the forceps, and progressively increasing in difficulty, although the infants were born alive. Her last labour was the most severe, notwithstanding the child weighed much less than the others.

"For six days she cheerfully performed light work, making no complaints to me, but, after her death, I learned that on the day previous to her admission she had fallen down a flight of stairs, and had since spoken of 'a pain in her liver,' which prevented her from sleeping on her right side. At 1 A.M., the 10th inst., she was aroused by a spasm of pain, and soon after presented the following symptoms:—Countenance pale and anxious; eyes hollow; pulse frequent and thready; extremities cold; frequent retchings, purgings, and eructations annoyed her; whilst a constant agonizing pain in the right hypochondrium, increasing at irregular intervals like cramps, caused her to utter loud outcries. The cervix uteri was conical; the os dry and impervious; every symptom of labour absent. The index-finger easily reached the promontory of the sacrum, showing a narrow conjugate diameter; the abdomen was distended and tympanitic; the uterus normal in form. She attributed her sufferings to a colic produced by a supper of cucumbers, and as they were vomited up undigested I adopted the same opinion. Anodynes were given, heat applied to the feet, and sinapisms to the abdomen. Reaction soon set in; severe pain ceased, and she quietly dozed until 6 A.M., when she suddenly became very restless and screamed with the

agony. The same train of symptoms was repeated; retching, collapse, &c., and I began to mistrust the accuracy of my diagnosis; so, after giving her ether, a more thorough examination was made.

"There was no appreciable labour-pains; no sensible intermittent condensation and relaxation of the uterine fibres; no dilatation of the os uteri. The uterine walls were tense and unyielding, as if under the action of one continuous labour-pain. The placental murmur was just perceptible, but all the foetal sounds were absent. I now began to suspect the existence of a concealed hæmorrhage, and, sending for assistance, applied anodynes, stimulants, heat, and ether enough to lull the pain.

"At 10 A.M. a small gush of sanguinolent serum took place, followed by a constant dribbling of the same fluid. This I took to be the waters, but, upon examination, found the membranes tense and entire, and the os now dilated to the size of a silver quarter, but with an extremely sharp and rigid edge, in which condition it remained for many hours. This discharge gave great relief; she rallied, lay quietly, and eagerly took some nourishment. In this improved state she continued until 5 o'clock P.M., when, during my momentary absence, insisting upon rising to empty her bowels, the membranes burst, and she began to flood. At this moment Dr. A. H. Smith opportunely arrived. The prostration now ensuing was so complete that the os immediately relaxed, whilst the uterine and abdominal walls became so flaccid that the outlines of the child's body and extremities could be traced by the eye; in fact, the position of the head was thus determined, for the fontanelles were beyond a discriminating reach. Dr. Smith applied the forceps, but no traction on his or my part could make the head engage. During these efforts the flooding persisted, whilst the struggles and shrieks of the poor creature were so distressing that ether was resorted to. The head was therefore opened, and even then with difficulty delivered, whilst the shoulders demanded the use of the blunt hook. A fearful gush of grumous blood followed the delivery; and the detached placenta, together with a basinful of old clots, was immediately removed. The uterus, in spite of ice, friction, and galvanism, remained as limp as a wet rag; indeed, so extremely flaccid, that while the hand was within the uterine cavity to stimulate contraction, the form of the fingers, and the intervals between them could be seen through the abdominal walls. No further hæmorrhage, however, took place, as the woman was completely drained, and she quietly died at half-past 7 o'clock P.M., about twenty minutes after delivery, and eighteen hours after the first attack. The placenta was large, flattened, and, upon its uterine surface, studded with clots which dipped down into its substance. The child lacked a month of full term, was thoroughly blanched, and weighed, without the brain, seven pounds and two ounces.

Autopsy: The posterior tips of the pubic bones at the symphysis were prolonged into two processes, forming a re-entrant angle; whilst the promontory of the sacrum was sharp and projecting, narrowing the conjugate diameter to barely three and a half inches. An inch below the symphysis, on the right descending pubic ramus, a sharp exostosis jutted out; whilst another occupied a point on the ileo-pectineal line, near the right sacro-iliac junction; both still further diminishing the capacity of the pelvis. To add to these complications, the pubic rami

formed a Saracenic, in lieu of the normal Roman arch. The uterus was healthy, but blanched and flaccid; the placental disk situated on its right postero-lateral surface, which accounted for the absence of any lateral bulging of the uterus as one of the symptoms. At points corresponding to the promontory and to the exostoses, several ecchymosed grooves were ploughed out, on the internal surface of the womb, by the pressure of the child's head. Upon the anterior peritoneal surface of the womb was found a fissure, about an inch and a half in length, so neatly divided as if cut with a knife; but no blood had collected in the abdomen."

An analysis of the cases collected by Dr. G. shows, he says, the importance of early interference. "So soon as an accurate diagnosis is made out, the rule should be imperative to deliver the woman as soon as possible, and thus lessen the bleeding surface; for as the hæmorrhage is a concealed one, it is safer to act on the assumption that it will continue until the birth of the child or the death of the woman. By simply piercing the membranes the same benefit may not accrue as in the franker forms of accidental hæmorrhage. In the latter, by an early evacuation of the waters the hæmorrhagic area is rapidly diminished. In concealed flooding this drainage will affect nothing, should the adherent margin of the placenta not yield; and indeed, even if the placenta should become detached, the blood may go on accumulating behind the membranes until it shall fill up the space originally occupied by the liquor amnii, thus rendering the condition of the woman still more perilous. To avoid this danger, after perforating the membranes, a very tight binder and compresses should be applied over the abdomen to prevent any further distension whilst other means are resorted to.

"This method of treatment has been questioned by no less authorities than Baudelocque, Puzos, and others, who contend that the waters should not be drained off, or the womb emptied of its ovum, unless labour-pains be present or can be aroused, and the os be sufficiently dilated to admit the hand. The former eminent obstetrician supports this opinion by the following fallacious dictum: 'The hæmorrhage cannot become so great as to effect such changes in the volume of the womb, without causing the expulsive action to be keenly solicited, and this soon responds by pains first resembling and ultimately becoming true labour pains.' * * * * But an analysis of the cases here collected proves the contrary, and lays down as axioms: (*a*) that the greater the hæmorrhage, the greater will be the syncope; (*b*) that the pains of labour will become feeble in direct proportion to the severity of the collapse; (*c*) that consequently they are generally absent in the worst cases of hæmorrhage, and cannot be aroused by the most powerful stimulants and oxytocics, so long as the uterus is over-distended; (*d*) but that when the membranes are pierced the vital contractility of the uterine walls condenses them, and usually provokes their organic contractility, unless the system be too far depressed.

"It is well to recollect that in some cases there are feeble but intermittent condensations of the uterine fibres, which have undoubtedly been mistaken by observers for labour-pains. But these closely resemble those false labour-pains which only affect the fundus, and do not dilate the os uteri; they are merely instinctive efforts on the part of nature

to resent the presence of intruding clots. In the majority of cases of internal flooding, the os dilates passively; but this is due not to the natural consequences of labour, but simply to the flaccidity of the cervix and surrounding tissues, resulting from the state of collapse, and also to the *vis a tergo* of an excessive uterine distension. Hence it follows that the dilatation of the os, in the absence of labour-pains, is in itself a speaking evidence of a serious hæmorrhage. Under such circumstances it therefore behoves us not to rely upon nature to accomplish this dilatation, but to rupture the membranes early, apply the binder, and, if necessary, introduce Barnes' dilators, which are in fact more efficient than the bag of waters for rapid extension of the os, and will obviate any necessity for incising the margin of a rigid os.

"If the os be dilatable, immediate delivery should next be attempted, either by the long forceps or by version. Each measure will have its advocates; but here, in our opinion, version by the feet meets all the requirements, and is decidedly preferable to the forceps; especially as the child very universally perishes at an early stage of the accident, and therefore no considerations for its safety are to embarrass the efforts at a speedy delivery. If the practitioner have attended his patient in previous labours, and know that her pelvis is ample, he is warranted in applying the forceps, provided there will be no delay in dragging the head through an imperfectly dilated os, and no subsequent detention at the perineum. Under the most favourable circumstances a delivery by the forceps is always accompanied by more or less delay. Should the head become locked at the brim, as in my own case, or in the pelvic cavity, the physician would indeed have every reason to regret that the uterine cavity had not been previously emptied as much as possible, both by the delivery of the child's body, and by the extrusion of all the clots which the operation of version would necessarily involve.

"In all other dangerous complications of labour requiring immediate delivery, version deservedly holds the first rank, because, by the bi-manual method, it can be resorted to at a much earlier period than the forceps. I have here, however, designedly placed these two operations on the same level as regards time, for when the hand can pass the os uteri, the forceps can often be applied; and, in my opinion, to perform version in a case of concealed flooding, the whole hand will require to be introduced, from the fact that the bulging in of the placenta or membranes, by the extravasation behind them, would present a ledge over which the breech or body of the child could not be made to glide by the feeble purchase of the bi-manual method of version.

"As ergotism cannot be induced in cases of grave hæmorrhage, ergot should be freely given, in order to counteract the tendency to relaxation of uterine fibres, and to provoke true labour-pains after the rupture of the membranes. If, however, version be demanded, it may be prudent to withhold this drug until that operation has been performed. Of course, active stimulants, opium in full doses, beef-tea, &c., must not be spared. Warmth to the cold extremities is very grateful, and by derivation is often useful in arresting hæmorrhage; perhaps, according to Chapman's theory, it would prove still more efficacious if applied also to the spine.

"Finally, whenever the symptoms are obscure, and the diagnosis

doubtful, act as though the case was one of concealed hæmorrhage, and follow the precept laid down by Theodore Mayerne for the management of floodings, "*præstantissimum remedium est fœtus extractio.*"

ART. 240.—*Prolapsus of the Uterus containing a Child between the Seventh and Eighth Months of the Second Pregnancy.*

By WILLIAM ALLISON.

(*British Medical Journal*, June 5.)

Mr. Allison records the following very remarkable case of this:—

"On 23rd March, in attending upon a woman, I found the uterus, containing a child, in the bed, just as if the child had been born. After sponging off any trifles of lint, etc., from the uterus, the entire mass was carefully returned into the abdomen of the mother. On March 24, a pessary was introduced, and each day, for three days, one of a different kind; but as all were intolerable, the woman was desired to lie or sit until labour came on. On May 2, after a lingering labour, the child was born and is now living—a healthy man in Sheffield. In 1844, a second son was born: both he and the mother are now living in East Retford."

ART. 241.—*Management of After-Pains.*

By T. GAILLARD THOMAS, M.D.

(*The Medical Record*, August 16.)

Professor T. Gaillard Thomas, M.D., in a "Lecture on the Management of Woman after Parturition," gives the following timely hints:—The less firmly a uterus contracts, the more severe are the after-pains, for firm contraction expels these clots, and thus the cause of the painful contraction disappears. For this reason, after first labours they do not occur. To cause firm uterine contraction, administer a full dose of ergot, just after or during the stage, in every case. Ergot never does harm, but fulfils an indication of great importance, and guards against the liability of hæmorrhage. Should this means fail, let the opiate be given before the obstetrician leaves the house. An excellent combination which he habitually employs for this purpose is the following: \mathcal{R} Chloroformi (squill) \mathfrak{z} ijss, morphiæ sulph., gr. ijss, syrupi, \mathfrak{z} ij; M. A teaspoonful every hour till relieved.

ART. 242.—*Cases of Transfusion: with some Remarks on a New Method of Performing the Operation.*

By J. BRAXTON HICKS, M.D., F.R.S.

(*Guy's Hospital Reports*, vol. xiv.)

In this paper Dr. Hicks records the particulars of six cases, the majority of which occurred in the Maternity Charity of Guy's Hospital; and although the results were unsatisfactory on the whole, yet suggestions for improving the operation may be derived even from the failures which have been experienced. Dr. Hicks observes that it appears surprising, at first sight, that the operation of transfusion has not been more extensively employed, and yet nearly a century has elapsed since Dr. Dashwood recommended it in cases of extreme hæmorrhage. But the general want of success, and the various impediments which occur during the performance of the operation, are the principal reasons which have prevented its frequent adoption. The want of success, however, is partly to be attributed to the postponement of the measure till too late a period, and partly to causes connected with the operation itself. Dr. Hicks finds one of the most trying hindrances to success in the tendency of the blood to coagulate at all stages of the proceeding and in all parts of the instruments, and hence arise not only the difficulty of injecting the blood, but also the danger of driving a small clot from some portion of the instrument into the venous circulation. This is particularly the case with the use of all complicated instruments, and in four instances, in which Dr. Hicks used blood alone by the aid of the old funnel and syringe, he found the greatest inconvenience and detention from the coagulation. Dr. Hicks's proposal for an improvement in the mode of performing transfusion has for its objects the simplification of the instruments and the prevention of the fibrillation of the blood. The latter object is attained by certain saline solutions, which are, moreover, tolerated by the system when introduced into the veins. The salt which is found to possess this double property in the greatest degree is the phosphate of soda, as suggested by Dr. Pavey to Dr. Hicks. The latter physician believes that it is possible, by the help of this salt, to delay the transfusion of the blood until proper arrangements can be made for the operation; for the want of success is often due to the hurried manner in which the plan is adopted, and some experiments on dogs seem to prove that blood mixed with phosphate of soda, and kept out of the system for some time, can be injected back into the animal without detriment.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 243.—*The Surgery of the Cervix in Connection with certain Uterine Diseases.*

By T. EMMETT, M.D.

(*American Journal of Obstetrics*.)

Dr. Emmett gives a summary of his experience of dilatation of the cervix uteri by incision. The uterus being, he says, an erectile organ,

flexure may vary in degree owing to the variation in the circulation. The flexure is above the vaginal junction. Surgical interference in such cases is unjustifiable. In endometritis with flexure, he uses large vaginal injections of hot water. This after a time produces contraction of the vessels. Then a solution of chromic acid, or iron, or iodine may be applied to the inner surface of the uterus by aid of two instruments, the uterine probe and the "applicator." The probe is a small ductile silver sound. This takes the curve of the uterus. The "applicator" is moulded to the same curve, and carries the fluid soaked in cotton twisted on it. After using chromic acid, Dr. Emmett insists upon keeping the patient quiet. At a later period it may be useful to dilate the cervix by tents. If relief is not obtained, division of the cervix may then be useful. With regard to the inter-uterine pessary, he says pelvic cellulitis is the rule, and not the exception from its use. When the flexure is below the vaginal juncture, the case is different. This is generally congenital, and dysmenorrhœa and sterility commonly attend it. His impression is that fully two out of three of the married, operated upon under twenty-five years, have become pregnant within the first year. Division of the cervix should not be attempted in any case when perimetritis is suspected. If the flexure is in the cervix, Dr. Emmett divides the posterior lip in the median line with scissors. If the flexure is high up and at a sharp angle, division of this anterior angle with the knife will be necessary. The open canal should be firmly packed with little pledgets of cotton soaked in glycerine, and over all the vagina tamponed, as if hæmorrhage at the time actually existed. This precaution is of the greatest importance, for a divided vessel in erectile tissue may contract promptly at first, but with reaction after the operation bleeding comes on suddenly, and the mouths of the vessels enlarge in a remarkable manner from the force and continuance of the current.

Dr. Emmett has abandoned the practice of incising the anterior lip for dysmenorrhœa depending on retroflexion. He says this condition rarely exists for any length of time without the supervention of perimetritis, and frequently of pelvic cellulitis; hence adhesions. The fundus can in such cases often be restored by gradual and repeated manipulations by a finger in the rectum, the adhesions gradually yielding.

Dr. Emmett objects to incision of the cervix at the lips, on account of the tendency to gaping of the flaps, and subsequent rolling out of the lining-membrane of the canal.

Amputation of the cervix is rarely necessary, except for malignant diseases. Dr. Emmett believes the cauliflower growth at least is a local disease at first, and says in several cases where he has been able to amputate the neck beyond in healthy tissue no return has occurred for several years. But these cases have been exceptions, as the disease has returned in the majority of instances between the fourth and sixth months.

ART. 244.—*Anemia and Chlorosis.*

By T. GAILLARD THOMAS, M.D., Prof. of Obst. and the Diseases of Women and Children, in the College of Physicians and Surgeons, New York.

The following table, taken from Dr. Thomas's excellent *Treatise on the Diseases of Women*, will assist materially in diagnosing between the two diseases :—

Anemia.

Is merely impoverishment of the blood from want of nourishment, from some drain upon the system, or from some poison in the blood.

Can usually be accounted for by discovery of some special cause.

Occurs at all periods of life, to men, women, and children.

Is really curable by removal of cause, good diet, and administration of iron.

Is always characterised by impoverishment of blood.

Produces a puffy and pale appearance.

Does not produce sadness or great nervous disquietude.

Is unaccompanied by visceral neuralgia.

Fibrin diminished in blood.

No special affection of solar plexus of nerves.

Iron always does good.

Symptoms of ovulation will be noticed without menstruation.

The cause of the disease being removed, the patient will rapidly improve.

Chlorosis.

Is a disease of the nervous system, and may occur with or without the production of its most common symptom, Anemia.

Cannot usually be accounted for by discovering any special cause.

Occurs in true type only to girls about time of puberty.

Is affected favourably only by remedies which act upon the nervous system, as alteratives and tonics.

Sometimes exists without impoverishment of blood.

Produces a light green colour.

Produces sadness and nervous disquietude.

Is constantly accompanied by visceral neuralgia.

Fibrin increased in blood.

Pain, uneasiness, or distress, commonly referred to solar plexus.

Iron often increases discomfort.

Neither symptoms of ovulation or menstruation will be noticed.

If supposed cause be removed, patient will often improve, but slowly.

ART. 245.—*Treatment of Chlorosis.*

By WILLIAM A. HAMMOND, M.D.

(*The Medical Record*, July 1.)

Ten drops of Fowler's solution and one-thirtieth grain of strychnia, three times a day, are given by Professor Hammond in chlorosis.

ART. 246.—*The Rectum in its Relations to Uterine Disease.*

By H. STORER, M.D.

(American Journal of Obstetrics, 1869 ; and British and Foreign Medico-Chir. Review, October.)

Dr. Storer contributes a valuable essay on the rectum, in its relations to uterine disease. Having illustrated the frequency of diseases of the rectum, and their bearing on uterine disease, he points out a mode of examination which he thinks superior to those in ordinary use. He deprecates for diagnosis, as well as for treatment, the use of the anal speculum. He says that by erecting the rectum by passing the finger within the vagina, we are able to explore the rectal cavity far more thoroughly than by any other means, and to apply remedies and perform operations with an ease, safety, and satisfaction that are otherwise impossible. He gives several interesting clinical illustrations of his views and practice. He relates a case in which an ovarian tumour opened into the rectum, and was cured by a fistulous communication ; also a case of utero-ovarian fistula. The patient had a large abdomen, and pus escaped from the os uteri. A large male catheter passed through the os its full length, gave exit to a large hand-basinful of a foetid sanies, with the effect of lessening the abdomen, and allowing the point of the catheter to be felt upon one side of the umbilicus.

ART. 247.—*Vaginismus treated successfully without Operation.*

By WHARTON P. HOOD, M.D.

(The Lancet, December 11.)

The following case is recorded by Dr. Hood :

"In August, 1868, I attended a lady, twenty-three years of age, who had been married two years ; and during this time all attempts at marital intercourse had failed, owing to the pain suffered by the female. The health of both husband and wife, it need hardly be said, was not improved by this condition of affairs. The wife was extremely anxious that something should be done to remedy matters, but was excessively nervous at the thought of an operation. I told her, however, that I did not think an operation, in the ordinary sense of the term, would be necessary ; but as she was so fearful, she might have some chloroform. Accordingly, I administered chloroform on the 12th August, and, in the presence of the husband, made a vaginal examination. I then found that the hymen had been ruptured, and so far as that was concerned there was no obstacle to complete intercourse. The remains of the hymen were still apparent ; and there was some slight redness and irritation of the parts. The vaginal canal was small and rigid, and to this fact, together with the shrinking of the patient from pain when intercourse was attempted, I attributed the failure in question.

"The treatment which naturally suggested itself as the result of this

examination was, the dilatation of the vagina; and this I accordingly proceeded to effect by introducing a dilating bivalve speculum (Weiss's). Having expanded the blades of the instrument by the screw action, I allowed it to remain *in situ* for about five minutes. I then explained to the husband the nature of the operation, at the same time showing him the speculum, and directed him to tell his wife afterwards what had been done, so as to remove from her mind any fear that an obstacle still existed.

"I heard from him a week later that a slight feeling of discomfort was complained of for four or five days afterwards, but when this had subsided the attempt at intercourse was renewed, and no difficulty was experienced in effecting it completely. Eleven months from this time the patient was confined of a son, and no further inconvenience had occurred.

"The interesting feature in this case is that, by the very simple procedure of dilating the vagina, a very troublesome state of affairs was rectified; and I am prompted to bring the case under the notice of the profession in order to induce others to try this method in preference to the more serious operation recommended by Dr. Marion Sims, who, in his 'Clinical Notes on Uterine Surgery,' p. 335, writes: 'The treatment [of vaginismus] consists in the removal of the hymen, the incision of the vaginal orifice, and subsequent dilatation. The last is useless without the first two, but is essential to easy and perfect success with them.' Now the case I have recorded proves, so far as it goes, that dilatation, without incision, is not only not 'useless,' but may, at least in some cases, be perfectly successful; and when it is recommended that, after incision, a dilator is 'to be worn daily for two or three weeks or longer,' it is evident that the operation is no slight matter, and ought not to be undertaken at least until other means, and especially the one here practised, have been tried and failed. I cannot help thinking that the proceeding recommended by Dr. Marion Sims is calculated in some cases to produce contraction of the parts, and thus rather to aggravate the evil complained of."

ART. 248.—*The Treatment of Chronic Uterine Catarrh*.*

By W. S. PLAYFAIR, M.D.

(*British Medical Journal*, August 28.)

The author commences his paper by a review of the symptomatology and pathology of the affection variously described by some such name as "chronic uterine catarrh," "uterine leucorrhœa," and "chronic endometritis." He quoted from Scanzoni and other writers to prove the extreme intractability of the complaint. Passing to the treatment, he referred to the unfounded dread entertained in this country of any such local applications directly to the seat of the disease as would

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July, 1869.

undoubtedly be employed in similar affections of the mucous membranes in other parts of the body. He contrasted this with the treatment employed by many of the most distinguished gynecologists on the Continent and in America, quoting their opinions in favour of systematic intra-uterine applications. He next discussed the various modes by which these might be applied. Describing the treatment by intra-uterine injections, he referred to their dangers and drawbacks; and stated his belief that all the good they were capable of effecting might be accomplished by other and safer means. He next described the treatment he himself employed, by swabbing out the interior of the uterine cavity with cotton-wool saturated in a solution of carbolic acid, the wool being thinly wrapped round a flexible probe of metal or whalebone. Dr. Playfair concluded by adverting to the success which had followed this treatment, averring that he had not yet met with a case of the disease which had not either been entirely cured, or at least greatly ameliorated; and that he had never seen any bad consequences follow his practice.

ART. 249.—*On the Pathology and Therapeutics of
Dysmenorrhœa Membranacea.*

By Dr. F. MANDL.

(*Wiener Med. Presse*, No. 1, 3, 4, 6, 8, 11, 15, 1869; *Schmidt's Jahrbücher*, No. 7, 1869.)

Dr. Mandl gives the following conclusions as the results of his investigations on this subject:—

1. Dysmenorrhœa membranacea, decidua menstrualis, is a serious affection.
2. Its pathology consists in an expulsion, during, or at a later period than forty-eight hours after the period, of a formation similar to the Hunterian membrane. In some cases a similar extra-menstrual membrane is formed.
3. Its configuration resembles that of a membrane detached from the uterus.
4. It consists merely of the epithelium of the uterine mucous membrane and the elongated and torn out ducts of the utricular glands (very like to chorionic tufts).
5. Menstrual and also extramenstrual membranes may be developed during a menopause as a result of chronic inflammation.
6. The affection leads, in course of time, to retro and anteversion, congestion, and disturbances of the circulation to the uterus, and to considerable constitutional disturbance.
7. Cure of the last cannot be expected before cure of the local symptoms.
8. All the patients thus affected are sterile.
9. The etiology of the disease is quite unknown to pathology, and therapeutics require further study.
10. The direct application of chlorate of potash to the mucous membrane of the uterus seems to hinder the formation of the membrane.

ART. 250.—*Chromic Acid in the Treatment of Menorrhagia and Uterine Leucorrhœa.*

By DAVID WOOSTER, M.D., of San Francisco, Cal.

(*American Journal of the Medical Sciences*, Oct.)

The author has used chromic acid in several instances, both for menorrhagia and uterine leucorrhœa, with uniform and absolute success. He uses the acid in leucorrhœa in the strength of fifteen grains to a drachm of hot water, having first dilated the cervix with sponge tent. One injection is generally sufficient, when the general health is not seriously impaired.

The injections in any event should not be repeated in less than four or five days; unless the cervix be well dilated before the injection, the most alarming collapse may supervene in a few moments. The same thing will often happen even if the cervix has been well dilated, unless the patient remain in bed at least twenty-four hours after the injection. Notwithstanding these *possibilities* of harm, the chromic acid is perfectly harmless if used with the precautions suggested; and if it will cure a chronic uterine leucorrhœa, it is certainly worth the trouble of being carefully handled, and its *possible* dangers are no greater than might result from the careless use of salt and water. If labour-pains and tendency to collapse should supervene from the carelessness of physician or patient, hot fomentations to abdomen, lavender and ammonia or brandy internally, with absolute rest in bed, will afford prompt and permanent relief.

ART. 251.—*On Peritoneal Adhesions of the Gravid Uterus as a Cause of Post-Partum Hæmorrhage.**

By GRAILY HEWITT, M.D., F.R.C.P.

In this paper the author pointed out an occasional cause of retention of the placenta, and consequent liability to post-partum hæmorrhage, arising from adhesions between the upper part of the gravid uterus and the adjacent parts, whereby the uterus is prevented from descending in the proper manner after the expulsion of the child, and mechanically held in a distended condition. It was shown how such a state of things must render retention of the placenta and hæmorrhage very liable to occur. This cause of difficulty had not, so far as the author was aware, received attention by obstetric authors. The proof of the connexion between these adhesions and the accident in question was given by a case which he had observed a few years since. The patient had been delivered of twins, the placenta was retained, and a most profuse bleeding had occurred. The placenta was removed by the hand, the fundus uteri lying very high up in the abdomen. Seven days later death occurred from gradual exhaustion, there having been a little secondary

* Abstract of a paper read at a meeting of the Obstetrical Society of London.

hæmorrhage. The post-mortem examination showed firm, tough, broken-off adhesions at the top and back of the uterus, giving it quite a shaggy aspect. The ends of these string-like bands hung freely, and were two to three inches long. It was evident that the uterus had been adherent superiorly by these adhesions, and that they had been broken through when the uterus was finally made to descend. [A drawing of the uterus, made at the time, was exhibited.] Next, the author related another case where, after delivery, retention occurred, and the placenta was found enclosed in the fundus of the uterus, at a very unusual height in the abdomen. In this case also, a very violent hæmorrhage occurred, but after the placenta had been extracted. Lastly, a case was related where adhesions appeared to have been present, tying over and obstructing the bowel, and causing such extreme pain at the end of the eighth month that the question of inducing labour had to be considered. The labour set in in a few hours, the pain having been unceasing. The subsequent events appeared to bear out the opinion just expressed as to the nature of the case. The author finally stated his belief that further inquiry would prove the connexion now pointed out between uterine adhesions and post-partum accidents to be one not, perhaps, unfrequently existing, and its practical importance could scarcely be overrated.

ART. 252.—*Notes from a Clinical Lecture on a Case of Irreducible Retroversion of the Gravid Uterus—Paracentesis Uteri—Recovery.*

By Dr. HEAD.

(*London Hospital Reports*, vol. iv. ; and *British and Foreign Med.-Chir. Review*, July.)

The subject of this case was a woman, aged nineteen, who was in the sixth month of pregnancy, and who had sustained a blow in the left lumbar region about six weeks before she applied for assistance at the hospital. It appeared that she had experienced great difficulty in passing her water, and suffered extreme pain; but no attempt was made to draw off the urine, although she was taken into a workhouse. When she arrived at the hospital there was a large ovoid tumour above the pelvis, looking like a distended bladder; the perinæum was also very much distended, and so was the anal orifice. An attempt was made to pass a catheter, although without effect; but the urine was made to pass by pressing forcibly with the finger at the apex of the vagina. An attempt to rectify the position of the uterus was also unsuccessful. Under these circumstances, and after consultation, Mr. Maunder passed a trocar into the uterus through the anus, and a large quantity of liquor amnii came away. Immediately afterwards a large loose motion was passed, and the next day the fœtus and placenta were expelled; and although the symptoms for some time were very alarming, the patient eventually recovered completely. Dr. Head, in his remarks on the case, strongly recommends that in every case of retroversion of the gravid uterus the contents of the bladder should be evacuated. The puncture

of the uterus for the discharge of the liquor amnii was an operation first proposed by Dr. William Hunter, in the circumstances of Dr. Head's case, and the operation was justified by the results.

ART. 253.—*Retroflexion of Uterus in a Single Woman caused by Lifting a Heavy Weight.*

Under the care of Dr. HALL DAVIS, of the Middlesex Hospital.

(*The Lancet*, September 4.)

The treatment pursued in the following case, and which was successful, was simple. Dr. Hall Davis tells us that he always adopts it in uncomplicated cases in the first instance, not resorting to local depletion on the one hand, nor to mechanical appliances on the other, unless the former is indicated as a primary measure, or the latter becomes unavoidable, which is less frequent in single women.

C. H., aged twenty-six, single, was admitted into Prudhoe ward, Middlesex Hospital, on February 8th, 1869. Complexion fair, habit spare, aspect feeble, stature medium.

Menstrual history.—Catamenia only appear at long intervals. They were present one month ago, and are always accompanied by much pain, referred to the lumbar and epigastric regions.

History of present illness.—Three weeks ago, after lifting a heavy weight, she felt as if something was suddenly displaced. She then had a sense of weight and dragging within the pelvis, with much pain in the sacral region, and obstinate constipation. Fourteen days ago she caught cold, which aggravated her sufferings, and soon after she felt obliged to keep in bed.

State on admission.—The tongue is furred, pulse quickened, temperature normal, chest sounds good; rectum pressed upon by fundus and body of uterus, which are displaced downwards and backwards into hollow of sacrum. The os uteri is displaced a little forwards; the angle of flexion distinctly felt at junction of cervix and body of uterus. Catamenia present, having returned yesterday. The uterine sound passes easily through uterine orifice downwards and backwards into the cavity of the displaced body. On rotating the sound, the womb is reduced into its correct position; while on removal of the sound, the uterus is again displaced into its former malposition of retroflexion.

Treatment.—The bowels were well cleared out, and kept free by gentle aperients and enemata. The uterus having been reduced by the sound, the patient was placed in the prone posture, and impressed with the absolute necessity of lying continuously upon her abdomen. Cold water injections into the vagina were practised daily. After three weeks' persistence in this treatment (the organ not being allowed to remain unreduced, if, as it did sometimes after action of the bowels, it became again displaced), she was permitted and enabled to walk about the ward without any recurrence of the malposition. She took, during the latter days of her stay, some tonic medicine, and left convalescent at the end of a month from her admission. She was enjoined to avoid making any

strong efforts of lifting, &c., for some time to come, and to avoid constipated bowels. She returned twice subsequently for observation. when the uterus was still found in correct position.

ART. 254.—*A Remarkable Case of Retroversion of the Uterus of Eighteen Years' Standing Successfully Treated by Elytrorrhaphy.*

By J. BYRNE, M.D.

(*Amer. Journ. of Obstet.*, and *British and Foreign Med.-Chir. Review*, October.)

Dr. Byrne's case of cure of retroversion and prolapsus of the uterus by operation is interesting. The subject had a child at seventeen. Soon after she complained of great dysuria and bearing-down. Complete prolapsus ensued. At the end of eighteen years she came under treatment. The tumour was returned within the pelvis. A bag was passed into the rectum and inflated so as to raise the fundus uteri, whilst a tenaculum seized the hypertrophied anterior lip of the uterus, and by this double action the uterus was restored to its normal position. It was found that when the anterior vaginal wall was firmly seized by a hooked forceps, and if at the same time by a sound in the cavity of the uterus, efforts were made to produce retroversion, no amount of force compatible with the integrity of the tissues could succeed in doing so; but when the forceps was removed, and the tension on the vesico-vaginal septum thus removed, there was not the slightest difficulty in producing retroversion. It was therefore concluded that an operation similar to that practised by Sims for cystocele and prolapsus uteri might succeed. The anterior wall of the vagina was depressed so as to make two ridges, longitudinally extending from the meatus urinarius to within half an inch of the os uteri. These ridges were denuded, and the surfaces were brought into apposition by seven interrupted sutures. When the parts had healed, it was found that even by a sound in the uterus retroversion could not be produced. The patient made a good recovery, the retroversion and prolapsus being cured.

ART. 255.—*Ovariocentesis Vaginalis.*

By Dr. E. NOEGGERATT.

(*American Journal of Obstet.*)

Dr. Noeggerath contributes an elaborate memoir, historical, critical, and practical, on the procedure for tapping ovarian cysts through the vagina. He places the patient on the edge of the fauteuil somewhat in lithotomy position, passes a curved trocar and canula to the most prominent part of the tumour, and pierces the cyst. A curved bistoury, with a button at the end, is then passed through the canula, and the canula

is withdrawn sufficiently to allow the cutting edges of the bistoury to incise and enlarge the wound. Removing the bistoury, the canula is again pushed forward into the wound, and through it past the sound, which serves as a guide to the introduction of a tube into the cyst after the removal of the canula. The canula used in one case was a piece of elastic stomach tube, about ten inches long. This is retained in the wound to afford an exit to the contents of the cyst. Afterwards Dr. Noeggerath used a special tin canula of large diameter, having a self-retaining apparatus. Through this injections were made when the discharges were offensive. In one case the incisions made caused copious hæmorrhage, filling the cyst which had previously emptied. This was stopped by compressing the canula against the angle of the wound by compresses. In another case the hæmorrhage was fatal. Dr. Noeggerath says the condition of the cyst-walls must be taken into account when we decide about the choice of a method of operating; if we admit that a cyst with thin walls will collapse more readily, it may, on the other hand, prove a source of danger from the spreading of inflammation lighted up in the inner membrane, to the peritoneum. Peritonitis has frequently followed the operation. Cysts containing fat, hair, or encephaloid matter must be excluded from the operation. Colloid cysts, even if their contents be not thoroughly fluid, can be treated in this manner. In a case operated upon by Dr. Schnetter, rapid liquefaction of the colloid matter took place after the operation.

When dealing with two or more cysts there is danger of twice perforating the peritoneum, when decomposed fluid or gases would escape either from the upper or the lower cyst into the abdominal cavity. This accident is the reason why the operation of Récamier recently repeated by Sims, must necessarily prove fatal. They passed a long curved trocar through the abdominal walls towards Douglas's pouch, and a second trocar into the cyst through the vagina, so as to meet the first. Thus two openings were established in the cyst, the lower one giving issue to the contents into the vagina, the upper one into the abdominal cavity. It is better to act upon one cyst only at a time. It is probable that by the collapse and destruction of the principal cyst, obliteration of the vessels feeding the smaller cysts takes place; hence they disappear by atrophy. The operation can only be performed in those cases where the cyst is distinctly felt through the vagina behind the neck of the uterus. The risk of septic fever must be avoided by procuring the evacuation of the contents of the cyst, and by altering the character of the secretions. This is done by cleansing and disinfecting injections.

The paper concludes with a table exhibiting the chief features of 48 cases in which an ovarian cyst has been tapped by the vagina. 55 operations were performed upon 48 patients; 34 were unsuccessful. The disease returned in 3; result undecided in 4. Death occurred in 14 cases; in 1 from hæmorrhage, 4 from peritonitis, 7 from septicæmia, 1 from typhoid, 1 from an attack of peritonitis not caused by the operation.

ART. 256.—*Diffuse Hypertrophy of both Mammæ—Excision of one Organ—Favourable Result.*

By S. M. MACSWINEY, M.D., Physician to Jervis-street Hospital.

(*Dublin Quarterly Journal*, November.)

The following case is related by Dr. MacSwiney :—

“M. M'G., aged twenty, unmarried, consulted me in April, 1869, for the inconvenience and weight caused by great enlargement of both her breasts. She gave me the following

“*History.*—She has been rather delicate, although never seriously ill, as long as she can remember. One year ago she noticed a ‘kernel’ in her right breast. Shortly afterwards she became aware that both her breasts had become rather suddenly considerably increased in size. They had been all her life very imperfectly developed, and were noticeably under the average size up to this time, when they assumed the condition of rapid growth. Their bulk augmented until their weight and size caused her much inconvenience. She never felt any severe pain in them; nothing more distressing than occasional ‘stings’ darting through them, accompanied by a feeling of general uneasiness in the entire mammary region. Her health soon became seriously impaired; her appetite failed her; she lost weight and strength, and she slept badly. She knew of no cause whatsoever for this affection of her breasts. Her monthly periods had been regular in their occurrence ever since their first appearance at the age of fourteen. She had never received a hurt in the part affected, nor had ever experienced any irregular irritation of the mamma, or the related organs. Two months before she came to me she consulted Mr. Edward Hamilton, and was under that able surgeon’s treatment for some weeks. No important alteration in her state, however, occurred, she says, during this time; but she observed that the size of the breasts diminished after each catamenial flow, and then resumed its process of increase again, until it reached its maximum at the commencement of the next monthly period.

“After consultation with my colleagues at Jervis-street Hospital, I submitted her to a course of remedies intended to promote the absorption of the hypertrophied tissue. She took iodine in different preparations internally; and the breasts were gently rubbed with a variety of liniments. This plan was persevered with for some weeks, but no improvement followed.

“I now became impressed with a conviction that mere therapeutic measures would not produce any substantial and permanent reduction in the size of the breasts, and, influenced by the results of experience, as recorded by Birkett and others, I felt certain that the only available remedy was excision. And as in some of the reported cases where both breasts were engaged in the abnormal process, removal of one gland only had been followed by a considerable and permanent reduction in the size of the other, I was in favour of removing but one breast at first, and watching the effect for some months. This opinion I communicated to the young woman, and to her parents. She was very unwilling,

however, to adopt the advice at the time, and I therefore recommended her to reside for some months in the country, and to pursue a plan of treatment as to diet and remedies, which I prescribed with the object of improving her general health.

"She now passed from under my observation for some time, and among other medical men whom she saw, I believe, consulted Dr. Robert Macdonnell, who gave her his opinion that there was but one course to adopt now in her case, after the failure of constitutional treatment, namely, removal—a conclusion which corresponded, as has just been seen, with the one already arrived at by myself.

"On July 16th she once more placed herself under my care, and I again held a consultation with my colleagues as to the course proper to be pursued for her relief. Having considered all the circumstances of the case, seeing that the breasts were continuing to enlarge, and that her health was becoming more impaired, and regarding the failure of remedies to reduce the size of the glands as having been fully established, it was agreed upon by us to advise her to have the right breast removed now, and should this not be followed, in some months, by a considerable diminution in the dimensions of the left, then that it also should be excised. She now willingly agreed to the adoption of this course, declaring that the weight of the organs was quite intolerable; and I asked Mr. Stapleton, whose experience in the diseases of the affected organs was very considerable, to receive her under his care with a view to the performance of the operation.

"At this time the following was her state:—She was pale, and somewhat delicate looking. Her appetite was bad. Her sleep was interrupted and uneasy. She suffers from occasional attacks of distressing palpitation. The first sound of the heart is soft, normal; the second sound is loud, sharp, and shrill. No bruit is audible. The pulse is 90. Her tongue is clean; her bowels regular; her voice is low and feeble, and she seems to suffer from exhaustion and irritation to an alarming extent; she cannot endure the weight of the breasts; she has to support them well up with a piece of strong linen fastened round her waist, on which they rest as on a suspensory bandage.

"The skin over the mammary glands is of the natural colour in the upper half, and of a well-marked brownish, or even livid hue, at the lower half. The organs are pear-shaped, and pendulous. In each the nipple is completely retracted. Abnormally large veins, full of blood, can be seen coursing over the surface of the breasts, and adjoining thoracic parietes. The organs are very distinctly nodulated, and have the peculiarly hard feel of mammary tissue in a condition of functional activity. The axillary glands are not affected.

The dimensions of the breasts were:—

RIGHT.			LEFT.		
	Inches.			Inches.	
Length . . .	11½		Length . . .	10½	
Circumference . .	21		Circumference . .	20	

"July 24.—I gave her chloroform, and Mr. Stapleton removed the right breast. The operation was completed with the skill and rapidity which characterize all Mr. Stapleton's surgical performances. Very

little blood was lost, owing to the precaution taken by Mr. Stapleton of having the tumour elevated for some time before the operation, so as to allow the venous blood to drain away from the repleted vessels. This procedure was first had recourse to by the late Mr. O'Ferrall when removing a large scrotal tumour, in a case reported by myself—when acting as clinical clerk to the operator—in the first number of the *Dublin Hospital Gazette*, February, 1845.

"I put the breast in the scales immediately after the operation, and found that it weighed six pounds and a half. And we may estimate that at least half a pound of blood was drained out of it into the general system before the operation. If we add the weight of the other mammary gland, we will find that the poor girl had to carry about with her, depending from her chest, night and day, a load of nearly a stone in weight.

"26.—Feels no pain in wound, which looks healthy. She had a slight rigor this morning, and is now hot, feverish, and thirsty; complains of headache; her tongue is coated; her pulse 110; the skin over the sternum is red.

"27.—Complains of feeling very ill. The skin covering the left mamma is slightly raised up, hot and painful to the touch; feels rough when the hand is drawn over it; it is discoloured, of a brownish-red tint; her tongue is partially coated with a whitish covering, and partially fiery-red looking; her pulse beats 120 in the minute. Mr. Stapleton pronounced her to have a rather sharp attack of angeio-leucitis.

"In a few days, however, all the feverish symptoms completely subsided, the wound healed rapidly, union by the first intention taking place, and she soon made an excellent recovery. The removed breast has been presented by me to the Museum of the Royal College of Surgeons of Ireland.

"August 19.—She left hospital on this day, and went to the country for some weeks.

"September 8.—She called upon me on this day, when I found her state to be as follows:—She looks much more healthy than before the operation. She sleeps well; has a good appetite; menstruates regularly, and is quite free from pain and uneasiness.

"On examination I find that the tissues in the right mammary region are quite healthy; a narrow cicatrix alone marks the line of the incision made in the removal of the breast. The skin on the left mamma was puckered up into numerous wrinkles. The gland was reduced considerably in size. Its dimensions now were:—

					Inches.
Circumference	16
Length	6½

Thus a gain of four inches in each of the two measurements has been already accomplished, and on this account I think that good ground exists for expecting that the anticipation entertained by us of its returning to its normal size will be ultimately fully verified.

"Should this sanguine expectation, however, not be realized, as is quite possible, and should, on the contrary, the left breast, instead of returning to, and remaining of, its natural size, resume the process of

abnormal growth at present suspended in it, then, in this event, I will not hesitate to advise *its* removal also. And in the propriety of this recommendation, I think I will be sustained by the authority of Velpeau, whose words I here quote:—‘It is also determined by the majority of the cases pointed out in the commencement of the article, that the extirpation of such tumours can be resorted to with advantage. Nevertheless, I should not propose the operation except in cases where the tumour is more or less free, and pendulous from a sort of root; that is to say, when the hypertrophy depends rather on the glandular tissue than on the other elements of the breast, or when the integuments are pretty loose, and sufficiently sound to allow of our preserving so much of them as may be necessary to bring together the edges of the wound.’ ”

ART. 257.—*On the Relations which exist between Eclampsia and Puerperal Mania.*

By P. SEYDEL, of Könisberg.

(*Vierteljahrschrift für Gerichtliche u. Öffentliche Medicin*, t. xx., No. 2;
Annales d'Hygiène Publique, October.)

No one doubts the powerful influence of puerperality upon the production and explosion of mental aberration; all periods of this state—pregnancy, parturition, child-bed, and even lactation, take an active part, although in different degrees. One point which has been less studied is the recognition of the various symptoms which influence the explosion of intellectual derangement. Dr. Seydel has eclampsia principally in view. He shows by well-chosen examples that this grave complication may, at whatever period it occurs, be accompanied and followed by mania, most frequently acute. Evidently both arise from the same cause; they may break out simultaneously, or one may succeed the other. During parturition mania many occur either in the prodromic period of eclampsia or in the intervals of the different attacks, or consecutively, several days even after the cessation of the attacks. It is not a rare event to see a more or less prolonged interval of good health separating the pathological states; and mania is so much shorter in duration as the attacks of eclampsia have become more feeble, and the interval longer.

When mania succeeds immediately the soporific state, it generally ceases in a short time, or rather, terminates in death with typhoid symptoms. In this case there is most frequently a complication of fibrile organic lesions, especially of endometritis.

The form of mental alienation which succeeds eclampsia is, almost constantly, acute mania. Careful study of cases shows that this can readily be distinguished from delirium symptomatic of some puerperal organic malady. Albuminuria has not been sought for in every case, and it is impossible to decide, with regard both to mania and eclampsia, whether these maladies result from an acute morbid change of the kidneys, or from exaggerated arterial pressure. In all cases, eclampsia

constitutes a predisposition to puerperal mania, which may break out after a long interval, and the occasional causes ought to be sought for in more or less severe organic changes and in moral emotions.

ART. 258.—*On the Treatment of Puerperal Convulsions.**

By ARTHUR STEELE, Lecturer on Midwifery, Royal Infirmary School of Medicine, Liverpool.

(*Liverpool Medical and Surgical Reports*, October.)

The treatment of this disease has been the subject of much dispute owing to the different views held as to its pathology. With regard to blood-letting, the author considered it in some cases a remedy of great efficiency, in others equally powerful for evil. One main object of this treatment is to diminish the quantity of blood in the vessels, and thus to relieve congestion of the brain and spinal cord. Hence it is useful in the simpler forms of this affection, dependent chiefly upon stimulation of the spinal cord by excess of blood, or upon the mechanical pressure exerted by the blood on that organ, together with the counter-pressure of the distended brain on the medulla oblongata. It is indicated in general fulness of the vascular system, and where, during the violence of fits, there is extreme congestion and pressure of the vessels of the head and neck. When albuminuria or uræmia is present blood-letting is not well borne, but it is sometimes of service, if judiciously employed, by eliminating the *materies morbi*. As regard "*artificial delivery*," the plan formerly recommended, to empty the uterus in all cases as speedily as possible, is as dangerous in practice as it is unsound in principle. It is only when the presence of the fœtus in the uterus is the chief exciting cause, that its removal can do any good. No arbitrary rule can be laid down as to the mode of delivery, but the use of the forceps is preferable, if it can be applied. Chloroform is useful in many cases, if given judiciously, and not allowed to supersede the use of other means. In the course of the paper, the author gave the details of cases, illustrating the various modes of treatment.

ART. 259.—*Cases of Puerperal Convulsions, with Remarks on the various Remedies used in the Treatment of this Disease.*

By THOMAS J. H. O'CONNOR, L.R.C.P. Edin.

(*Liverpool Med. and Surg. Reports*, October.)

The author related three cases, each representing a different type of this disease, the *hyperæmic*, the *anæmic*, and the *apoplectic*. In con-

* Abstract of a paper read at a meeting of the Liverpool Medical Association.

sidering the different remedies, he depreciated *stimulating enemata* and *purgatives*, because they produced excitation of the uterus, which he considered to be the proximate cause of the disease. *Tartar emetic* he deemed inapplicable, unless the stomach was overloaded; in continued nauseating doses he believed it to be injurious. *Chloroform* is an invaluable remedy in anæmic and hysteric convulsions, when there is excessive pain, as in the slow dilatation of a rigid os; but it is not admissible in the hyperæmic form, where stertor and stupor continue in the intervals between the paroxysms. *Opium* is suitable in similar cases. The author expressed himself strongly against delivery by turning, except in cross births, and believed that delivery by the natural expulsive powers was the safest. In cases where the head has descended into the pelvis, application of the forceps or delivery by perforation is advisable, seeing that when the os is fully dilated, such interference does not increase the excitation of the uterus.

ART. 260.—*On Intra-uterine Injections in the Treatment of Diseases of the Womb.*

By Dr. FRANZ RIEGEL, of Wurzburg.

(*Deutsches Archiv für klinische Medicin*, v. ; *Schmidt's Jahrbücher*, No. 8.)

The question of the direct application of medicinal agents to the uterine cavity, notwithstanding the numerous experiments that have been made, especially of late, has as yet by no means been conclusively decided; with intra-uterine injections this is especially the case. The ground of the existing differences in opinion does not consist so much in the fear of the penetration of the injected fluid through the Fallopian tubes into the abdominal cavity. Vidal de Cassis has proved the impossibility of such penetration so long as the injection is not made with excessive force. Numerous evil results from intra-uterine injections have, however, been described by various authorities, and for the explanation of these results the most varied hypotheses have been put forward; in one instance is the evil result attributed to too great a quantity of injected fluid; in another to the force with which this fluid was driven in; in one instance again to a peculiar reaction of the uterus against all foreign bodies; and in another also to the passage of the fluid into the open vessels of the uterine mucous membrane, and occasionally to a purely hysterical condition. Although the causes which may underlie in particular cases the unfavourable symptoms could never be explained, still it can be stated with precision that the consecutive symptoms must vary, since the affected organ in every case comports itself in a different manner. The method of injection, the form of the instrument, the temperature of the injected fluid, but especially the amplitude and previous condition of the outer and inner mouth of the womb are also to be taken into consideration.

By attention to certain preliminary rules, intra-uterine injections may be performed without the least danger. The instruments hitherto used

by preference are Braun's syringe, and the catheter curved in the form of a uterine sound, to the hinder extremity of which a large and suitable syringe can be fitted, and the catheter with a double current, as this is preferable. In Braun's syringe the side opening is so small that it is readily blocked up by mucus, so that a preliminary removal of pus or mucus from the uterine cavity by means of injections is rendered impossible; also in cases where it is required to withdraw the injected fluid, this instrument is not to be thought of. On the other hand, it is possible, with Braun's syringe, to measure the force with which the injection is made; moreover, the side opening offers the favourable condition that the fundus uteri, in which there should be the greatest irritability, is touched by the fluid for the first time after the full force of the stream has been expended. Notwithstanding this advantage, most use is made, especially in France, of the *cathéter à double courant*. When Avrand reports that he has allowed 20 litres of fluid to flow through the uterine cavity, the thought forces itself upon us, that it was through the ready passage of the cervical canal which allowed so large a quantity to be injected without causing injury. Sims states rightly that by previous dilatation of the os internum the injection, formerly considered so full of danger, may be made with perfect safety.

The most suitable way of bringing about dilatation of the os uteri is by means of compressed sponge, which, before its introduction, is to be smeared, not at its base only but along the whole extent, with glycerine, so that no ulceration of the cervical canal is produced. The tent must be frequently changed, and always replaced by a thicker tent until the canal has been so far dilated as to admit the finger. During this process it is to be kept in view that the sponge be changed after from six to twelve hours, in order to prevent ulceration. After the os uteri has been dilated in this manner, not only is a passage prepared for the intra-uterine injection, but a more accurate diagnosis of the disease is rendered possible.

It is unnecessary to measure the uterine cavity with the sound before injection, in order to determine the amount of fluid to be injected, since the fluid is not to be retained within the uterus, but merely to be brought into temporary contact with the diseased organ. On the other hand, a previous close examination with the sound is to be urgently recommended, for the purpose of making out the presence or absence of peri-uterine affections and of adhesions. It is going too far to set up the presence of peri-uterine ulceration as a contra-indication. Before each injection the uterine cavity should be entirely freed of the secretion that exists within it; in many cases injections of warm water suffice for this purpose; in other cases, especially where there are large quantities of gross mucus, solutions of common salt and diluted alkaline solutions prove of use.

The temperature of the injection cannot be stated positively, as it must depend upon the object with which it is used in each case. The process of injection is so simple, that a minute description would appear to be superfluous. As a portion of the fluid passes away between the catheter and the inner surfaces of the uterus into the vagina, it is requisite, when using strongly-astringent or caustic solutions, to introduce a plug for the protection of the walls of this canal.

Exclusive of their application in labour and during childbed, injections have been used most frequently with regard to symptoms in menorrhagia and metrorrhagia, springing from very many causes. Very recently they have been applied by Cohnstein in the treatment of chronic infarction, both for the removal of catarrh of the membrane and against the infarction itself. By many English and American gynaecologists injections have been recommended for the treatment of all the various forms of endometritis and of ulceration of the cervical canal and the uterine cavity, and even for the cure of fibroid growths. Avrand has employed them in the treatment of metritis, endometritis, and abnormalities in the position and form of the uterus. Dr. Riegel speaks only of the results obtained from his own observation.

In cases of uterine hæmorrhage there is, indeed, no surer method of arresting bleeding than to bring some astringent or caustic fluid in direct contact with its source at the diseased mucous membrane. The agents applied, when indicated by symptoms, for the mere purpose of arresting bleeding, are, simple or iced water, a solution of alum, tannin, sulphate of copper, or chromic acid, and especially the liquor ferri, sesquichloride or tincture of iodine, all being always more or less concentrated, according to the severity of the bleeding. In more than one hundred cases the bleeding was arrested at one sitting, and, indeed, on several occasions, after between six and twelve ounces had flowed into the uterus. In many instances the bleeding did not return; more frequently a repetition of the injection was required on the following day; never was the application required to be repeated more than three times. In the majority of attacks the injections were applied when the bleeding had exceeded to a considerable extent the quantity of an ordinary menstrual discharge; when applied in such cases, they were never attended with more severe accidents than slight colic, and lumbar pains, slight contractions, and the like.

The next indication in pregnancy for the use of intra-uterine injections in Dr. Riegel's practice was the existence of endometritis, chiefly the chronic form. In consequence of the difficulty presented by the diagnosis of this affection, and of its varying forms and intensity, distension of the urinal canal by means of compressed sponge is a point of the greatest importance for facilitating, in the first place, a correct diagnosis, and next an effectual treatment. When the analogy of this disease with chronic affections of other mucous membranes is taken into consideration, we are taught that chronic inflammation cannot be successfully removed unless an acute inflammatory state be set up. With chronic endometritis it is necessary to convert the same into an acute form, in order, by means of the newly-established inflammation, to bring about absorption and removal of old inflammatory products. Relying upon this principle, Dr. Riegel endeavours to set up irritation in the mucous membrane by introducing sponge tents and injecting strong astringent or caustic solutions. For this purpose, concentrated solutions of tannin, nitrate of silver, liquor ferri sesquichlorati, and tincture of iodine are especially recommended; whilst with injections applied for arresting hæmorrhage the catheter with a double current is preferable, in consequence of its capacity for injecting a large quantity of fluid. In the treatment of endometritis Braun's syringe is recommended. Any

ulcerations that may exist in the vaginal portion of the uterus, and in the cervix, are generally cured with the disappearance of the endometritis, but may be most quickly removed by the local application of solid sulphate of copper.

Dr. Reigel has also treated by means of intra-uterine injections that most frequent affection of the uterus, chronic metritis. The majority of cases which come under clinical observation have already reached the stage of connective tissue growth; consequently, that stage in which, as a result of irregular increase of the connective tissue, the uterus is generally more anæmic, but moreover, always presents here and there, large and blood-distended vessels. The most frequent cause of chronic infarction is no doubt to be sought for in childbed, in conditions which hinder the normal involution of the uterus. It would, therefore, be only possible to remove a chronic infarction where one can succeed in stimulating and accelerating the tissue metamorphosis and the vascular activity.

This object the practitioner has hitherto sought to attain through various means—partly through derivatives to the intestine, and the skin, and abstraction of blood; partly through irritants applied directly upon the uterus or its interior, as by the introduction of a sound, cauterization of the interior of the uterus with sulphate of copper; the introduction of intra-uterine pessaries, and the like. Until recently intra-uterine injections were applied only in isolated cases. Speaking from his own experience with this method, Dr. Riegel states only that in every case a longer time was required for the attainment of any result; so that, although the injection, except at the time of menstruation, was repeated every two or three days, a permanent result could not be obtained until after a course of treatment lasting for several months.

Injections act much more beneficially upon flexions than upon versions of the uterus, which latter condition they scarcely ever relieve. Although those flexions which depend upon peri-uterine adhesions or cicatricial connexions with the neighbouring organs, must be considered as incurable, still indeed, a host of consecutive disturbances may, through injections, be deferred for a longer or shorter period. But it must be constantly kept in view that any dragging, and all attempts at elevation of the uterus by means of the sound, must be strictly avoided, so as not to cause contraction and fresh irritation, which might excite another attack of peritonitis. In cases of flexion without adhesion of the womb to neighbouring organs, and which depends merely upon relaxation of the tissue, or otherwise owes its origin to some injurious condition, and which is often associated with increase of volume or with infarction, injections act in another manner. The treatment by intra-uterine injections must always be looked upon as a rational one for cases of this kind, so long as they have not come to the condition of complete induration, with considerable decrease of vessels. Two cases are reported by Dr. Riegel: in both instances, after the absence of adhesions had been made out, the sound was introduced for the purpose of rectifying the position of the uterus, and compressed sponge was introduced. In the first case, on the following day, when the sponge tent had been removed, complete restoration of the position of the uterus could be brought about, and in the second case after the sponge had been intro-

duced three times. Exclusive of its mechanical action, the chief effect of the compressed sponge depends upon the irritation it sets up as a foreign body, by which increased vascularity, contraction, and consequently increased absorption, are excited. Intra-uterine injections then serve to keep up the established state of irritation, and to retain the uterus in its restored position. In the first case six injections of tannin and solution of iodine sufficed to restore completely the uterus to its normal condition; in the second case, cure was perfected after a treatment lasting for six weeks.

ART. 261.—*Ice to the Spine in Menorrhagia.*

By WILLIAM C. CROOKS, M.D., of Philadelphia.

(*The Medical and Surgical Reporter*, August 22, 1868.)

The author gives his experience in the application of ice to the spine in several cases of menorrhagia. We quote three cases.

Mrs. S., aged thirty-five years, a native of Ireland; no children; no miscarriages; had for the past eight years been liable to attacks of menorrhagia; suffered greatly at times, for a number of years, with uterine disease, on account of which she had been under treatment by different physicians, and lately operated on for partial occlusion of os. This occlusion was supposed to be the result of the preceding treatment. On April 27th, 1866, menorrhagia returned, the flow very much increased in quantity. Astringent remedies were employed, both general and local, but gave only temporary relief. On May 5th, the first application of ice made to the spine, and directed to be retained thereto for two hours. In half an hour after the application was made, a sleep of an hour's duration was produced. The preparations of cinchona and iron were given internally. On the 5th, pain was greatly relieved, and the flow diminished to not more than two ounces in the twenty-four hours. The ice was reapplied as before. On the 7th, pain diminished still more, hæmorrhage entirely checked, and did not again recur. The debility was great, and the preparations of cinchona and iron were continued. Beef-extract and a good nourishing diet were ordered. The patient, under this tonic treatment, soon regained her usual strength.

A young woman, aged nineteen, large, heavily-built, and plethoric. Menstruated at fifteen; married two years; no children. One miscarriage. This accident happened three months previously. Gestation had progressed naturally until this accident, which happened about the third month; discharged the product of conception. Had always menstruated regularly up to the time of conception. After this accident, for the first time she had excessive menstruation.

On the 10th of September I was summoned to see her. She had been flooding for twelve hours, during which time she had lost a pint of blood, as near as could be calculated. Bowels constipated and pain severe. At 8 P.M. ice was applied to the spine, and in twenty minutes sleep was produced, which lasted two hours. A large dose of castor-oil was given to overcome the constipated condition of the bowels.

11th.—The discharge reduced to its normal quantity. Ice not reapplied. Antiphlogistic measures resorted to.

20th.—No recurrence of the excessive menstruation. Health regained. Medicine discontinued.

By using precautionary measures on the approach of each menstrual period, she has not as yet suffered from any return. The precautions I directed in this case are those which the known liability of any woman to menorrhagia should lead her to adopt with the return of each menstrual epoch,—strict observance of the horizontal position, from the commencement of the discharge until it ceases, with care that the bowels are not constipated.

On 24th May, Miss R., aged thirty, despatched a messenger for me in great haste. On my arrival was informed, that three days previously Miss R. had, on coming downstairs, received a trivial injury by falling down three or four steps. No inconvenience whatever had been experienced, or pain suffered from the fall until the morning of the 24th, when the return of her menses was accompanied by an alarming hæmorrhage.

In this case no treatment was indicated except that which would arrest the present hæmorrhage. Ice was applied to the lower part of the spine, and retained thereto for two hours. The application was renewed three different times during the succeeding thirty-eight hours, at the expiration of which hæmorrhage was under complete control.

28th.—No recurrence of hæmorrhage; a little prostration from the loss of blood was all that remained, for which ferrated elixir of calisaya in dessertspoonful doses was given three times a day.

The ice is to be broken up into small pieces about the size of an English walnut, and then put into the Chapman's spinal ice-bag (or in lieu thereof the common bladder may be used), the pockets of which are to be not more than two-thirds full, when you will securely tighten them by the attached screws, if the Chapman's bag be used, and if the bladder, a cord will answer the purpose.

Having the ice prepared as above, it is applied to the lower portion of the spine (in the region of the lower dorsal and lumbar vertebræ), and retained thereto from half an hour to two hours, as the exigency of the case may require, and renewed at intervals varying from six to twelve hours, until the desired effect is produced.

Special attention to the preparing of the ice should be given, for obvious reasons. The patient, if at all possible, must be placed on her back, and have the ice-bag applied to the spine underneath her; now, if the ice is not prepared correctly, or the bag and bladder more than two-thirds full, it will in the one case cause an irregularity, and in the other a globular mass which cannot be rightly adjusted to the spine.

ART. 262.—*Myomata of the Uterus, Broad Ligaments, and Ovaries; Calcareous and Suppurative Degeneration.*

By Dr. TYSON.

(*American Journal of the Medical Sciences*, October.)

At a meeting of the Pathological Society of Philadelphia Dr. John Neill presented the specimen and furnished the following history:—

The tumour is from the womb of an unmarried lady, fifty-eight years of age, who had been riding out and eating heartily until five months ago.

The tumour, as the family called it, was noticed fifteen or twenty years ago, and many of our most eminent practitioners advised her to think nothing of it, but to maintain her general health. It increased very gradually in size, and at her death was not more than six inches in diameter.

She had been under my care only during the last four or six weeks, and suffered but little local disturbance—occasionally pain down the left limb—though increasing, so that for the last three weeks she was confined to her bed from inability to move rather than from pain. Her skin was yellow, and when I first saw her she had vomiting and diarrhoea, which were, however, quite controllable. But her most prominent symptom was the loss of appetite, and complete disgust for food. She died from inanition, and within a few days previous to her death had a distressing, irritating cough.

When I opened the abdomen, twenty hours after death, there was no distension of the intestines. The omentum was quite adherent to the front of the uterus. This seemed of the same size as recognised during life. The surface was irregularly covered with patches, nodules, and cysts, containing mostly greenish, fetid pus. The uterus was impacted in pelvis, and adherent to additional morbid growths, originating apparently in the broad ligaments. Many of the growths were extremely rough and dense, such as the ovary, which is presented. These roughnesses were limy and hard to cut. A portion of the uterus is also exhibited. When I cut or dug it out I opened several loculi or sacs containing greenish pus. The walls were extremely hard, infiltrated with lime.

In addition to its morbid-anatomy interest, the case gives several interesting points in its history:—

1. Its long duration and little inconvenience until recently (which she attributed to the tumour having been elevated by an india-rubber bag).

2. No constitutional disturbance.

3. No interior discharge, no blood, pus, or any offensive smell.

4. The formation of pus, or rather the degeneration of solids into fluids in some places, with but little chill, or creeps, and no fever.

Microscopic examination by Dr. Tyson showed the tumours to be fibrous myomata, which in their points of stony hardness had undergone calcareous degeneration. The contents of the cysts were purulent.

ART. 263.—*Case of Congenital Absence of the Vagina and Uterus, with full Development of the External Organs of Generation and Mammary Glands.*

By T. L. OGIER, M.D., of Charleston, South Carolina.

(*American Journal of the Medical Sciences*, October.)

The following case is recorded by Dr. Ogier :—

“Mrs. X., about four months married, placed herself under my professional care in consequence of her being affected with some imperfection of the vagina, as she and her husband supposed. On my first visit to Mrs. X., who was an interesting young woman, twenty-four years of age, about five feet three or four inches in height, with well-developed breasts and of general *embonpoint*, I found, on making an examination with my hand, that the vagina was only a short pouch, about two-and-a-half inches long. I told her she was differently affected than she supposed, and made an appointment for another examination on the following day. The next day I put her thoroughly under chloroform and made the examination. The mons veneris was full, and covered as usual with hair, the vulva perfectly formed, the clitoris was well developed, though not of extraordinary size; the meatus urinarius and internal labiæ were natural. Upon introducing the finger into the vagina, it was found to be only a cul-de-sac, three inches long, and very narrow at its internal extremity; no os uteri could be felt or seen in any direction. The forefinger of the left hand was now passed up the rectum, whilst the right was in the vagina: no uterus or anything like it could be distinguished. I passed a metallic bougie through the meatus urinarius into the bladder; the end of this could be distinctly felt through the parietes of the bladder and rectum, and could also be felt by pressing firmly on the pubic region. By the left forefinger in the rectum, and the forefinger of the right hand in the vagina, I found that there was a space about two inches in length between the internal extremity of the vagina and the cavity of the abdomen; this space contained no solid body, but seemed made up of cellular tissue. I felt so sure of this, that I made an incision into the tissue at the internal extremity of the cul-de-sac, and introduced a short rectum bougie into the vagina, pressing it firmly against the cut made into its extremity, and retained this in position by a bandage, thus preventing the contact of the edges of the cut. On the third day after I cut still a little deeper, applying the bougie as before. This pressure I kept up for two days; at the end of that time, I found on examination by the rectum, that there was not more than one-third of an inch between the internal extremity of the vagina and the abdominal cavity. I did not consider it prudent, therefore, to make any further incision into this tissue. I continued, however, the use of the rectum bougie without much pressure: at the end of four weeks I found that nearly one inch and a half more of vagina had been gained, making its entire length nearly five inches. The dilatation was now continued with a larger sized bougie, more to increase the width of the vagina than to increase

its length ; for, as before mentioned, I considered it dangerous to decrease the thickness of the wall between the internal end of the vagina and the abdominal cavity more than had been already done.

"During the six months that this lady was under my care, I examined in every way to find the rudiment of a uterus, and could not find the slightest trace. I requested my friend Dr. R. Kinloch to assist me in the examination, and after the most careful search it was evident that the uterus did not exist.

"I am not aware of any mode of examination by which it can be determined with certainty that the ovaries are present or wanting, other than that of passing one forefinger up the rectum and pressing with the other hand on the iliac regions. In this examination, if the ovaries are large, or the subject thin, they can be distinguished ; but in a doubtful case, where the woman is not emaciated, it is extremely difficult to find the ovaries, or to say whether they exist or not ; a post-mortem examination alone can determine the question. As regards the uterus the matter is different. With Sims' method of 'a finger in the rectum and a sound in the bladder, alternating the latter with supra-pubic pressure,' the existence or not of the uterus can with certainty be ascertained ; but if the ovaries did exist in this case, they of course could not perform their peculiar functions, there being no opening anywhere for the Fallopian tubes. Prof. Hewitt, in his excellent book on the diseases of women, mentions a case coming under his care of entire absence of the uterus in a lady twenty years of age, 'presenting the following conditions : pudendum, covered with hair ; labia majora, well developed ; vagina, represented by a mere little pit, admitting the uterine sound only half an inch ; no uterus or hard body to be discovered between the bladder and rectum high up ; signs of ovarian activity had been observed on two or three occasions, giving reason for the belief that the ovaries existed ; the breasts were well developed.'

"Dr. J. Marion Sims says he has seen five cases of absence of the vagina, in all of which there was no uterus ; but he does not give the details of these cases, and we do not know therefore how the physical and mental development in these women were affected by this malformation.

"In the case under consideration, nothing was wanting in any of the attributes of woman, such as we find her with complete and perfect organization, except the absence of the menses and the inability to become pregnant. Sexual intercourse with her husband was agreeable and gave pleasure, as in ordinary cases. She was highly educated, an accomplished musician, a great lover of poetry, and wrote it well herself ; was very fond of children, and her house and establishment were arranged with such taste as we see only when such places are presided over by an accomplished and tasteful woman.

"The old and received axiom, therefore, does not apply in her case, that *propter uterum solum mulier est id quod est.*"

ART. 264.—*On Fibro-Cystic Tumours of the Uterus.*

By Dr. E. KÆBERLÉ.

(Gazette Hebdomadaire, No. 16.)

Dr. Kœberlé gives the following remarks in connexion with a report of a case in which he had removed by gastrotomy a large fibro-cystic growth from the womb:—

“Fibro-cystic tumours of the womb have been rarely observed, and their diagnosis has, up to the present time, been considered impossible. But fourteen cases have been recorded, two of which, those of Kiwisch and Cruveilhier, were recognised after death, and were not subjected to any surgical interference. The preceding case is the only one in which the diagnosis was made out before the operation. In another case operated upon by myself, and believed to be an interstitial fibrous tumour of the uterus, some small collections of fluid were discovered at the time of the operation. All the other cases were taken for cysts of the ovary, and operated upon as such. Operations were performed in fourteen instances. In four cases the operation was unfinished, and in three it resulted in death. One patient in whom but a single exploratory incision was made, recovered. Of the eight completed operations, four were fatal and four resulted in complete recovery. The difficulties presented to operations of this kind are sometimes very great, which fact explains the considerable proportion, one third, of those that remained unfinished. Mr. Spencer Wells recommends that the operation should be broken off whenever the surgeon has made out that there are very close connexions between the tumour and the uterus. The surgical proceedings of this kind have been rejected alike by surgeons and by the most distinguished gynecologists. M. Nélaton has declared that ‘all operations directed against interstitial fibrous tumours are impracticable.’ Boyer, in the same manner, formerly stated with regard to ovarian tumours, that ‘the least amount of reflexion suffices to show the danger and impossibility of their extirpation, which indeed should never be undertaken.’ Sir J. Simpson thinks that extirpation of fibrous tumours ought to be regarded as an absurd operation, a judgment confirmed, according to this authority, by experience. ‘In fact,’ he says, ‘when the disease has attacked the fundus of the uterus extirpation of the organ is an operation attended with such hazard that the surgeon should have no hesitation in declaring that it ought to be rejected as a proceeding altogether opposed to sound surgical doctrines.’

“Notwithstanding these anathemas, I have on six occasions performed extirpation of the womb for fibrous tumours, and three times with success. But I reject the operation whenever the tumour does not seriously compromise the functions of the economy, and where there is no tendency for it to develop itself in an excessive manner.

“The diagnosis of fibro-cystic tumours has up to the present time been declared impossible by almost every author. Scanzoni alone has stated that means will be found sooner or later for recognising them. In the preceding case an exact diagnosis was made out.

"It may be established—

"1st. By the face being more or less dark and injected, as may be usually observed in females affected with fibrous tumours of the uterus.

"2nd. By the uneven and variable consistence of the tumour.

"3rd. By the results of a puncture. The trocar may traverse the more or less condensed fibrous portions of the growth, which furnish but a small quantity of pure blood; whilst, when penetrating into a part hollowed by cavities, it gives issue to a yellow serous fluid analogous to ordinary serosity, or to lymph which contains coagulable fibrin. The liquid sometimes contains crystals of cholesterine, and may be more or less thick, purulent, and hæmorrhagic; but never presents the variable viscosity found in the fluid from ovarian cysts.

"4. By the more or less firm consistence of the growth of the tumour after evacuation of the fluid.

"5. By the connexions of the tumour with the uterus, and by the symptoms generally presented by uterine fibrous tumours.

"Fibro-cystic tumours may be sub-peritoneal or interstitial. Their development may be very slow or very rapid according to the case, as occurs likewise with cysts of the ovary. They have seldom been met with before the age of thirty. These growths have been divided by M. Cruveilhier into two distinct categories. On the one hand, one may meet with irregular cysts without proper walls, which are developed consecutively to an œdematous infiltration of the fibrous body, when the interlobular spaces slowly dilate and finally break down under the influence of the interstitial fluid. Irregular cavities are thus formed, which are more or less analogous to true cysts without distinct walls. The fluid contained in those cavities is serous, limpid, yellow, like the serosity of œdema, sometimes hæmorrhagic. On the other hand, cysts with more or less regular cavities and smooth walls are formed in the tissue of the fibrous growth. The fluid contained within these cavities is limpid, yellow, fibrinous, like lymph, and spontaneously coagulable. The cavities generally communicate by well-defined openings. The large cavities are spherical, whilst the smaller accessory ones are flattened and form more or less irregular sinuses. These cysts probably result from the progressive dilatation of lymphatic vessels. They are always consecutive to some mechanical obstacle to the circulation of the lymph.

ART. 265.—*Practical Remarks on Fibrous Tumours of the Uterus.*

By Dr. A. LINAS.

(*Gazette Hebdomadaire*, No. 5.)

Dr. A. Linas discusses the question of the advice to be given when a physician is consulted upon the matter of marriage and upon its remote or immediate eventualities, by a female affected with a fibrous tumour of the uterus. The answer to this problem is based upon certain facts relating to the clinical history of these morbid growths.

Fibrous tumours of the womb are divided, with regard to their seat, into interstitial or intra-mural, sub-peritoneal, and intra-uterine growths.

Intra-uterine fibrous tumours in most cases finally acquire a stalk, and become fibrous polypi. As they are then always accessible to the hand and instrument of the surgeon, and can, consequently, be removed by operation, the question of marriage with regard to growths of this kind can manifestly be cut short by the *écraseur*, the scissors, or the knife.

With interstitial and sub-peritoneal fibroid growths, the case is different. These two varieties seldom admit of surgical interference. Gastro-hysterotomy is the only operation adapted for them, and this proceeding, notwithstanding the success obtained by M. Kœberlé, will probably have but few supporters, and acquire no favour in surgery.

In spite of appearances, the sub-peritoneal fibrous tumours present as much and even more gravity with regard to the question of marriage than the interstitial growth. They do not indeed prevent fecundation, but they certainly present a grave obstacle to the normal developement of pregnancy. Sometimes sessile, implanted in the uterus by a large base, and thus forming a thick and massive projection into the pelvic cavity; at others, pedunculated, moveable, and floating in the pelvis; they very often confine the womb in the concavity of the sacrum. There they constitute an unchangeable mass, which is a stumbling-block to pregnancy. Miscarriages are produced habitually on the fourth or sixth month of gestation. If by chance pregnancy has followed the regular course of its evolution, the labour is most frequently a difficult one, in consequence of the mechanical and the sometimes almost insurmountable obstacles to the passage and expulsion of the *fœtus*, or of hæmorrhage frequently compromising the life of the mother. For these reasons marriage should not be recommended to females affected with sub-peritoneal fibrous tumours, although they may be young, and in a condition for conception.

With regard to interstitial fibrous tumours, M. Linas states that these growths present themselves not only in married women but also in virgins. The period between twenty-five and thirty-five years, when the uterine activity is at its height, is most favourable for the development of this variety of fibrous growths. Their presence is habitually revealed by an increase in the volume of the uterus, by abdominal development, by the manifestation of a tumour in the hypogastrium, by derangements of menstruation, as superabundant menstrual discharge, and menorrhagia during intermenstrual epochs, and, finally, by disturbance of micturition, especially dysuria and retention of urine.

It is important to recollect that some of the above symptoms may be absent. The only two symptoms which excite suspicion and fix the attention, are the hypogastric tumour and the retention of urine at a menstrual epoch. It is probable that menstrual hæmorrhage, and intermenstrual menorrhagia, do not occur whilst the fibroid growth remains purely interstitial; these symptoms are doubtless not prevented until the tumour in the course of its development has come into contact with the mucous membrane of the uterus and caused irritation, ulceration, and destruction of this layer.

A second point of very great importance in the solution of our

problem is to consider the reciprocal influence of pregnancy and delivery on fibrous bodies, and of the latter upon gestation and parturition.

Intra-uterine fibrous growths are not incompatible with fecundation and pregnancy; they do not become a cause of sterility, except when, in consequence of an enormous size, they entirely obliterate the cavity of the uterus and the orifices of the Fallopian tubes. Except in those cases where the encounter of the spermatozoa and the ovum is actually impossible, impregnation may take place and lead to fecundation. Then one or other of two phenomena takes place: either pregnancy is interrupted in its evolution, and the product of conception is prematurely expelled, or pregnancy follows its regular course until the end. The former case—abortion—generally occurs when the tumour by its size opposes the free expansion of the womb and the normal development of the ovum; the membranes and placenta may also be prematurely detached by hæmorrhage.

In the second case (that of the regular course of gestation), the fibrous growths participating in the nutritive processes set up in the womb by gestation increase in vitality and vascularity, and undergo, like all the other anatomical elements of this organ, true hypertrophy; so that one of those growths, which at the commencement of gestation was no larger than a nut, may acquire, at the epoch of parturition, the size of an orange. According to Dr. Ashwell, fibrous bodies undergo softening at the last months of gestation, increase in vascularity, suppurate, and perish. This course sometimes occurs, but is exceptional. Generally the tumour softens without suppurating; pregnancy follows its usual course; labour takes place at the proper time, and the growth is expelled spontaneously, sometimes a few hours after the foetus, at others, and most frequently, after a period varying from four to twenty-five days.

Cases have been reported of rupture and inversion of the uterus after labour, owing to the presence of fibrous tumours. Inversion is very rare with interstitial fibrous growths; it is more common with polypi.

The fibrous tumour may also, in consequence of its size or faulty situation, render irregular the contractions of the uterus, prevent the descent of the foetus, restrict the diameters of the pelvic orifices, and, consequently, present an important obstacle and serious complications to parturition.

The most common and most dangerous accident during and after labour is hæmorrhage. Sometimes it produces a loss abundant enough to give rise to serious forebodings; frequently it is more dangerous by its persistence and obstinacy than by its profusion. At times the bleeding stops spontaneously, particularly if the fibrous growth be of small size, or if, being large, it is about to be eliminated by uterine contraction.

As the conditions, on the one hand, of the harmlessness of interstitial fibrous growth of the uterus may be thus recognised, and on the other hand their conditions of danger, both with regard to the health of the patients and to the course of pregnancy, what ought to be the conduct of the physician when he is consulted on the question of marriage by a woman affected with a tumour of this nature?

Ought marriage to be absolutely prohibited, or may it be at least authorized, if not recommended, in certain cases?

Any project of marriage ought at once to be forbidden where there

are serious menstrual disturbances or menorrhagia. These symptoms must be increased in intensity by conjugal approaches; and they render the woman liable to sterility, or almost invariably to miscarriages.

If the tumour be indolent, of small size, and provocative neither of menstrual disturbances nor of menorrhagia, what should be done?

In instances of this kind it is necessary to take into consideration the age of the woman, and the conditions and aim of marriage, and to distinguish three classes of cases:—

1st. If the woman be young, if she be in the plenitude of uterine activity, it would be imprudent and even rash to take part in marriage; for this would result in exposing the patient to the danger of genital excitement, to hæmorrhagic affections, to the possible chances of arrested pregnancy, and to the perilous consequences of a laborious, uncertain, and complicated pregnancy.

If the fibrous growth be easily accessible, enucleation may be recommended and attempted without great risk. If, however, the tumour be seated in the walls of the uterus, the operation presents so much difficulty and is attended with such uncertainty that it ought not to be recommended unless with extreme moderation. When the tumour is very large, it is perhaps the best plan to decide upon non-intervention.

2nd. Here we will suppose the woman to be no longer young, but between the ages of forty and forty-five years, that is to say, at the decline of uterine life, a period at which the passions are calm, the sexual ardour almost extinguished, and when the fibrous tumour has a tendency to become stationary. Here the dangers are less important, and the perils to be feared are not so great. The physician need not in this case oppose marriage absolutely, particularly if the fibrous growth be of small size, and if it does not give rise to any special symptom. Advice, however, should be given with very great reserve, and all the risks attending pregnancy should be explained. The responsibility of the adviser is thus avoided if any bad symptoms should come on after an abuse of marriage.

3rd. The case of a woman who has passed beyond the age of menstruation, or is more than forty-five years. Here the conditions are still more favourable. The fibrous tumour has now become stationary or has undergone atrophy, since the uterus has commenced a physiological sleep, in which the genital sense is obliterated and parturition is a sure event. At this age there is no hope of posterity. The marriage is generally contracted for convenience or interest, to gain a companion for old age, to unite two fortunes, to increase the comforts of old age, in short, to realize more or less the legend of Philemon and Baucis.

Under these conditions, marriage is not dangerous; and the existence of a fibrous tumour ought not to be considered as a reason for opposition to such a step. Still, even in this third stage, it is the duty of the physician not to leave the interested person in ignorance of the ordinary course of fibrous growths, the symptoms to which they may give rise, even after the cessation of menstruation, and the different modes of termination to which they are liable. In this manner the patient will be better able to decide her own case, and her medical attendant will have nothing wherewith to reproach himself.

ART. 266.—*Certain Forms of Uterine Cancer.**

By C. F. F. ROUTH, M.D., London.

(British Medical Journal, September 18.)

The author, after alluding to the hopeless misery to which these cases were formerly consigned, declared his belief that occasionally uterine cancer was curable. He affirmed—1st. Cancer was not necessarily a blood-disease—*i. e.*, in all cases primarily—but was often due to local poisoning or the co-operation of another cause. 2nd. Even where it was a blood-disease, this did not necessarily exclude local treatment as curative, as in cases of scrofula, secondary and tertiary syphilis. 3rd. Hereditary taint did not preclude hope of cure, as in gout and several skin affections; and in cases of spontaneous cancer cured by sloughing, or inflammatory seizures elsewhere. 4th. Recurrence was also not an argument for non-interference; here he quoted Messrs. Moore and De Morgan, and exemplified his position by recurrent fibroid. 5th. In these cases the temporary comfort derived from temporary removal of the cancer, even if not finally curative, and obliged to be repeated, was so great as to justify treatment. 6th. Uterine cancer was especially, as a rule, less rapid than cancer elsewhere. Dr. Routh then proceeded to speak of the action of remedies, stating that he derived *primā facie* encouragement from the known rule that some medicines singled out particular tissues in their action, and that these newly-formed products had less vitality than surrounding healthy parts. Dr. Routh next referred to the local destructive remedies. Iodine, carbolic acid, and bromine, were the three to which he gave the preference. Volatility, power, and a disinfectant quality were here the three necessary virtues required. Phosphorus and fluorine might hereafter be found useful; but when the mass was large, the red-hot iron or *écraseur* should be used first. The author then touched on the use of injections into the tumour, chiefly by citric, acetic, and carbolic acids. His experience led him to discountenance their employment in uterine cancer, as almost invariably doing harm. The compact nature of uterine tissue rendered injection very difficult of accomplishment. If he used injections at all, they were bromine injections, and purely as destructive agents. Dr. Routh then alluded to the plan he adopted in such cases. Referring to a former paper, published in the *Obstetrical Transactions*, he said more extensive experience had led him to be more cautious. Still, upon the whole, he could not but speak favourably of the bromine treatment. He would say—1st. It gave good prospect of cure in epithelioma, where the uterus is not fixed, nor vagina and rectum involved. But, 2nd, partial fixity of the uterus was not always a bar to interference. 3rd. It promised to do less good in cases where the fibroid element predominated in the cancer. 4th. It is only palliative in cases of fixity of uterus, and where the rectum and vagina were involved, although even in such cases it would give much comfort, and

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association.

prolong life. The author then detailed the mode of its application, and the great caution necessary in so doing, and in the preparation of the solution. Internal remedies were then dwelt upon. These should fulfil four indications. 1st. To purify the blood. Arsenic and bromides internally were chiefly recommended to do this, while iodides were condemned. 2nd. To improve the quality of the blood. Tonics, and iron especially. 3rd. To allay pain. Conium and nepenthe were advised as useful, and the endermic method of giving morphia and atropine. Blisters, also, were much praised. 4th. To prevent local infection. Disinfectants were stated to be indispensable, used as diluted injections within the vagina. Lastly, Dr. Routh pointed out the importance of rest of mind, avoidance of sexual excitement, and cold, depressing, or feverish seizures, all of which were calculated to increase the local affections, and make the cancer acute, as was proved by the history of some of his cases. Twelve cases were given, some of which were very much advanced on beginning the treatment. Although all but two were greatly benefited, and life was prolonged with much comfort, six ultimately died. One of these was a case of corroding ulcer of the womb, and one of scirrhus. Six recovered, as far as could be learnt, and one, also a case of corroding ulcer, recovered completely, the patient having since had a child.

ART. 267.—*New Vaginal Speculum.*

(*Medical Press and Circular*, December 8.)

At a recent meeting of the Philadelphia Obstetrical Society, Dr. Albert H. Smith exhibited a new form of vaginal speculum, which had been made at his suggestion by Mr. Kolbe. It is described at length in the *American Journal of Obstetrics* for November.

It is in form a bivalve, having a double movement, giving a parallel separation of the blades, and also the ordinary angular separation. This double movement was suggested first by Mr. Robert Ellis, of London, and adapted by him to his "new expanding" speculum, described in the *Transactions of the Obstetrical Society of London* for 1867; but his instrument, so far as appears, has not been brought much into use. Mr. Kolbe recently has made a very neat and simple modification of Ellis', giving a very useful instrument, as compared with any form of valve speculum previously in use.

Dr. Smith's speculum, adopting this principle of a double movement, is so constructed as to act as a double vaginal retractor, having the blades separate throughout their entire length upon one side, and connected by a square bar upon the opposite side, along which the blades slide with an independent motion. This movement is effected by means of a right and left screw placed in front of the bar, passing through the lower end of the pivot slides which move upon the bar, and to which are fastened the blades. This right and left screw is operated by means of a flat head at one extremity, the turning of which causes both blades to recede uniformly from the centre of the bar, making a parallel separation without any change in the angle of the blades towards each other.

The angular movement is effected by the handles of the blades working upon the pivot-joints by which the blades are connected with the bar; and as each blade moves independently of the other, each requires its separate adjustment for retaining it in position; this adjustment being a screw and nut attached at one end of the blade, and the other passing through an eye upon the slide.

The blades are short, being only $3\frac{1}{4}$ inches in length, allowing the cervix to fall forward toward the vulva, entirely within reach of the finger, which condition, with the opening and separation of the blade entirely upon one side, enables the operator to have complete command of the cervix with the finger while the speculum is in position, the vaginal walls being simply kept out of his way, without any interference from the instrument with his manipulations—an advantage which is not found in Ellis' or any other valve speculum, having the vulvar aperture a closed ring.

The advantage of this arrangement will be manifest to any one accustomed to use the speculum, even in the most ordinary cases of uterine disease. This speculum is easily introduced, retains itself without the slightest difficulty, and exposes the cervix with a completeness that no other single self-retaining instrument will do. Thomas' speculum, so much used in New York City, gives an admirable view of the cervix, but requires to be held in position continuously, thus involving either the aid of an assistant or the constant operation of one hand of the operator. Dr. Smith's speculum may be introduced with the convexity of the blades either antero-posteriorly or laterally. After introduction of the point towards the sacrum, the angular expansion of the blades enables the operator to find the cervix with little difficulty, when the movement of the screw separates the anterior portion of the blades, putting the walls of the vagina upon a stretch, allowing the cervix to fall forward in easy reach of the finger, which can be brought to bear upon its whole surface as far as the vaginal cul-de-sac. The entire openness of one side of the speculum facilitates the digital examination, as well as the investigation of the condition of the vagina, and especially the urethra and adjacent tissues.

In introducing a sponge-tent, so unsatisfactory an operation through any ordinary speculum, great advantage is given from the opportunity of ocular and digital examination, the tent being grasped tightly by the forceps, and directed by the finger in the vagina, without coming in contact with the vaginal moisture. The passage of the uterine sound is rendered much easier than with the speculum of ordinary length, the uterus not being forced upward and backward, and being allowed more of its natural mobility. In ligating or excising a polypus or other growth from the cervix, the advantage of combined sight and touch will be very easily comprehended.

(C) CONCERNING THE DISEASES OF CHILDREN.

ART. 268.—*A Contribution to the Clinical History of Variolous Disease occurring in Children and Minors.*

By WILLIAM PEPPER, M.D., one of the Physicians to the Philadelphia Hospital.

(*American Journal of the Medical Sciences*, October.)

After an elaborate paper, the author gives the following conclusions :

1. That vaccination appears to furnish almost complete protection against the occurrence of either varioloid or variola during the first six years of life ; the importance of which result is enormously increased by the additional fact that all the fatal cases enumerated occurred under four years of age.

The only cases which necessitate a modification of the claim for vaccination of absolute protective power during the first six years of life are two : one of discrete varioloid, and one of discrete variola, in both of which vaccination had been performed two years previously. Although there is some reason to assume that in these cases there may have been imperfection in the vaccination, the author does not care to insist upon it. In another case, however, where it was stated that vaccination had been twice unsuccessfully performed, and yet fatal confluent variola occurred at the age of twelve months, Dr. Pepper can have little doubt that the failure of the operation was due to the employment of inert virus, or to the neglect of proper care on the part of operator or parent.

2. That in subjects not vaccinated, the greatest susceptibility to the variolous poison seems to be during the first two years of life, at which time the form of the disease is very apt to be confluent and in a large proportion of cases fatal. The same tendency for the disease to assume the grave confluent form of true variola in unprotected subjects may be seen, though to a less degree, at all ages : thus, in 16 cases at all ages, where vaccination had never been performed, there were but 2 cases of varioloid, while there were 4 cases of discrete and 10 of confluent variola. Eleven of these cases occurred under 4 years of age, 2 being cases of varioloid, 1 of discrete and 8 of confluent variola ; while 5 occurred over 5 years of age, and presented 3 instances of discrete and 2 of confluent variola.

3. That when owing to any cause, whether from possible inertness of virus, imperfect insertion, or idiosyncrasy on the part of the subject, the vaccination fails, the operation should be repeated at short intervals, varying the virus and perhaps the mode of insertion, until success is obtained or all danger of exposure to contagion ceases. And in this latter case the attempt should be renewed after a few years' interval, or whenever the least danger of exposure to contagion arises.

4. That in very many cases, however successfully vaccination may have been performed, its protective power becomes exhausted after a number of years. In 15 cases where variolous disease occurred after successful vaccination, the interval was two years in 2 cases ; six, seven,

and eight years each in 1 case; and from ten to seventeen years in 10 cases. It would appear from this, that, although there is very little risk when vaccination has preceded the exposure to contagion by so short a period as two years, vaccination should still be practised to insure entire immunity, and that the necessity for revaccination becomes more and more urgent with every additional year's interval.

5. That when the protective power of vaccination has thus been in course of time exhausted, the subject may contract any form of variolous disease. Thus, of 15 cases occurring in those who had been successfully vaccinated, 6 were cases of discrete varioloid; 5 were cases of discrete, and 4 cases of confluent variola.

6. That, notwithstanding this possibility, the chances are very much more in favour of an attack of varioloid or a mild form of variola when the subject has been vaccinated successfully, no matter at how long a distance, than if this operation had never been performed. (See Conclusion 2.)

Thus, while of 16 cases occurring in unprotected subjects, there were only 2 cases of varioloid, but 4 of discrete and 10 of confluent variola, we see that of 15 cases which had been previously successfully vaccinated, there were 6 cases of varioloid; 5 of discrete and 4 of confluent variola.

7. That, although the above tables furnish meagre evidence of a positive kind as to the absolute power of vaccination to protect against death from variola, they furnish strong negative evidence in its favour. For we see that among children unprotected by vaccination, under the age of four years, 8 cases of confluent and 1 case of discrete variola occurred, with 5 deaths; while among the very much larger number of children of the same age exposed to the same contagion, but protected by previous vaccination, there occurred but two cases of variolous disease, and both of them mild and discrete varioloid.

8. The only observations which bear upon the question of the influence of vaccination performed during the incubation of variolous diseases are two: in one it was performed almost two weeks before an attack of discrete varioloid, in a child three years old; and in the other, five days before the first symptom of an attack, which proved to be confluent variola, in a boy twenty-one months old.

There seems no longer room for doubt that, if vaccination is performed during the incubation of variola, at such a time that the vaccine eruption appears before the variolous, this latter will be modified, and, in the vast majority of cases, favourably.

But there is no reason to suppose that when the vaccine eruption does not make its appearance, the introduction of the virus modifies in the least degree the ensuing variola. The fact that one of the children so vaccinated was one of the only two cases of varioloid which occurred among 9 cases of variolous disease under the age of three years, is probably to be explained on the supposition that there existed so slight a susceptibility that the child would have contracted merely a modified form of variola; and that vaccination would have failed had it been performed several weeks earlier.

In the other case the operation of vaccination preceded the first marked symptoms of variola by only five days, a period too short to afford much hope of impressing the system. It must be added, that during the pre-

valence of this epidemic of variola the author vaccinated many children, who were fully as much exposed to contagion as those whose cases form the basis of this article, and that in no instance where the operation was successful, nor in any other than the two above cases, where the system was unsusceptible to the vaccine virus, did the child contract any form of variolous disease.

Finally, it may safely be laid down as a rule of practice, that whenever an individual (especially a child) who has never been vaccinated, or only at a distance of two or more years, has been exposed to the contagion of variola, vaccination should be immediately performed, unless it is positively known that the stage of incubation has so far advanced that the vaccine disease will not have time to be developed before the appearance of the variolous eruption, unless, in other words, the initial symptoms of the variolous disease have appeared. It will be remembered that Eichhorn recommended the performance of vaccination during the prodromes, or even on the first day of the eruption of variola; but, so far as we are aware, no other observers have found this practice followed by favourable results.

It remains to consider the influence of vaccination upon the probability of disfiguration in any subsequent attack of variolous disease. Among the 33 cases reported there were but three instances in which pitting occurred, no local application having been made with a view to prevent it, but in all of these the disfiguration was marked. Two of them occurred in children, aged six months and six years respectively, who had never been vaccinated; the third, in a girl of eighteen years, who had been vaccinated successfully seventeen years before. In two other cases, very slight disfiguration occurred despite the use of local applications; one of them was a lad, aged eighteen years, who had been vaccinated thirteen years before; the other a lad, aged twenty years, who had never been vaccinated.

The degree of susceptibility of the system to the variolous poison is the all-important question, and if this be very marked (no matter whether vaccination have never been performed, or, having been performed, its protective influence has to a great extent passed away), the resulting disease may present all the phenomena of grave variola, and is surely entitled to that name. Nor is this question merely a theoretical one; for the application of the name varioloid to all forms of variolous disease occurring after vaccination certainly tends to create the impression that all such cases are necessarily mild, that their duration will be comparatively short, and that the eruption in particular will run through its stages rapidly, and leave no disfiguration.

The above conclusions are merely confirmatory of those which have been previously obtained by the study of many thousands of cases in all parts of the world. While pointing out the facts that the protective power of vaccination is not always complete, and that it is very liable to become exhausted after the lapse of some years, they point out still more clearly the inestimable value of the operation.

ART. 269.—*On the Temperature of Children in Health and Disease.**

By JAMES FINLAYSON, M.D.

The observations which Dr. Finlayson had formerly submitted to the Society, showed that the temperature underwent a conspicuous diminution in the evening in healthy children. He now briefly sketched the course of the temperature in some of the chief diseases of childhood, and supplemented his own cases by those of other English and German observers. He considered the thermometer seldom of much use in the diagnosis of doubtful cases of measles and scarlatina. In both diseases there was often an undoubted attack while the temperature could scarcely be said to be abnormally high; while the sudden rise and the degree of elevation usually observed in scarlatina might be simulated by febricula or tonsillitis. In the diagnosis of enteric fever in young subjects, much assistance and confirmation had frequently been obtained; also in the diagnosis of tubercular affections. Dr. Finlayson concluded by submitting the following propositions as to the value of the thermometer in the diagnosis of children's diseases. 1. With a strictly normal temperature observed morning and evening (*e.g.*, for two days), we may affirm the absence of fever (*pyrexia*). 2. The rise from the normal state to a temperature of 104 deg. or 105 deg. Fah., in the course of a single day, precludes the idea of typhus or enteric fever. (It does not, however, exclude scarlatina.) 3. The thermometer is of much service in enteric fever.—*a.* A distinct elevation of temperature may assist or confirm our diagnosis of enteric fever in cases where the pulse and general symptoms seem but little in accordance with the idea of fever at all. *b.* The peculiar mode of increase of the temperature during the first four days of this fever—gradual from day to day, and yet with morning remissions—is reckoned, by Wunderlich, to be diagnostic of this disease. He warns us, however, that the rise of the temperature may be more rapid in the child than in the adult. *c.* A continued high temperature may convince us that a patient is still the victim of enteric fever, although he may profess to be, and seem to be, quite well. *d.* The peculiar oscillations of temperature in the recovery from enteric fever, may, in some cases, clinch the diagnosis where it has, all along, been more or less doubtful. 4. The thermometer gives little or no assistance in those doubtful cases of scarlatina and measles where the rash is uncertain, or before it appears. 5. In tubercular diseases, the indications of the thermometer are most valuable. The reversal of the normal relation of the morning and evening temperature is most striking. In one or two instances I have been led to make a diagnosis—proved to be correct after death—mainly on the strength of the thermometrical observations. So as to be valuable, careful observations require to be made in the morning and evening, for some time. I cannot, however, subscribe to Dr. Ringer's statement, that the even-

* Abstract of a paper read at a meeting of the Manchester Medical Society, October 6.

ing temperature is *always* above the normal; at least, if by normal we mean the figures usually quoted hitherto. 6. In pneumonia and many other diseases, the temperature is more a matter of clinical interest than of diagnostic value; sometimes it may confirm a diagnosis made on other grounds. In cases where the rise in temperature precedes other signs and symptoms, the indication is usually too vague to be of much use. Even such obscure indications may, of course, have some prognostic value.—Dr. Wm. Roberts remarked, that he found he was using the thermometer more and more every day. He had, however, become aware of the existence of many pitfalls in the way of any one who relied on it apart from a careful consideration of other circumstances. He agreed with Dr. Finlayson, in regarding the temperature as especially valuable in tubercular disease and enteric fever. Dr. Thorburn mentioned the case of a child who died in convulsions at the onset of scarlatina, half an hour after its temperature had been recorded at 99 deg. Fahr. Dr. Finlayson pointed out the advantage of taking the temperature in the rectum in the case of children. In the axilla twenty to thirty minutes were required to secure accurate results, and great precautions were necessary. In the rectum the maximum was reached, with certainty, in a few minutes. He regarded five minutes as perfectly inadequate to yield trustworthy measurements in the axilla at any age.

ART. 270.—*Extraordinary Vitality of a New-born Infant.*

(*Edinburgh Medical Journal*, December.)

The following case reported to the *Chicago Medical Journal*, October 1st, 1868, by Dr. James T. Newman, illustrates the extraordinary vitality of the newly-born. August 14th, he was called to a girl,—whose shame the friends were trying to conceal by performing the offices connected with childbirth themselves,—on account of uterine hæmorrhage which alarmed them; and, had they not despaired of her life, none but the family would ever have known what the matter was. The child under consideration was born at eight in the morning, and was quietly wrapped up in an old blanket and put out of sight. I was told that it was still-born. I do not know why I requested to see it, but suffice it to say that the child was shown me, and there was something in its face told me that it was not dead; but I said nothing. The next morning I had occasion to use the stethoscope on an old lady living in the same locality. I called in to see my patient. After finding her doing well, I asked to see the child, and was told that it was in the coffin. I still looked as if I would like to see it, and the mother, noticing my countenance, raised the lid. I took the stethoscope and placed it over the region of the heart, and, to my great astonishment, I could distinctly hear the sound of the heart. I took the child out of the coffin, used Marshall Hall's method, and in the course of thirty minutes the child commenced breathing; the pulse was natural; it cried, and took the breast eagerly. It is a fine-looking boy to-day, and, for aught I know, bids fair to live threescore and ten years. Since

seeing this very remarkable case, there is no doubt in my mind that many children are consigned to the grave without an effort to induce respiration.

ART. 271.—*Two Cases of Convulsions during Dentition Arrested by Scarification of the Gums.**

By G. STEVENSON SMITH, L.R.C.S.E.

(*Edinburgh Medical Journal*, December.)

Since Dr. Cairns communicated his able paper on the Scarification of the Gums to this Society, I have chanced to meet with two cases of convulsions in young children, in whom the violent and alarming excitement of the nervous system was completely allayed by lancing the gums.

A. M., aged six months, a sickly-looking infant, had not been well for a day or two, and when I was asked to see him he had much heat of the skin and of the head, and had vomited several times. The pulse was sharp and quick, and for twenty-four hours there had been numerous successive attacks of general convulsions. Failing to find any cause for the fits in the state of the general health, I examined the mouth, and found the lower gum red, tumid, and glistening. I divided its tense margin with a lancet, and the little patient appeared to get immediate relief. At my visit next day, I found him lively and contented, the temperature had fallen, the gastric irritation had subsided, and there had been no more convulsions.

L. S., aged eight months, had been fretting much for some days, was hot and restless at night, had a burning head, quick pulse, and a ceaseless whining cry. I found that he had repeated attacks of convulsions, and when I arrived he was in a state of opisthotonos, this condition having existed for several hours. Having carefully examined the child, I found nothing to account for the nervous symptoms, save that the upper gum was hot, red, and swollen. He had cut the two lower incisors. I drew the point of a lancet across the tumid gum, and next day I found that the opisthotonos had passed away very soon after the operation. There were no more fits, and the child was comparatively well. The two upper incisors made their appearance in two days, and when I saw the child the other day he was in perfect health.

Similar cases I have frequently met with before, and the members of the Society must have had the same experience.

In Dr. Cairns's paper three questions were put, which I shall now endeavour to answer *seriatim*.

1st. Does scarification do any good? Does it relieve local pain or prevent and arrest convulsions, laryngismus stridulus, diarrhœa, &c.? To this I reply in the affirmative. It does relieve local pain in many a case, and how this can be doubted for a moment I am at a loss to understand. The little patient cannot speak, says Dr. Cairns, and how can you be sure that you have given relief? It seems to me, that, if

* Paper read at a meeting of the Edinburgh Obstetrical Society.

we cannot interpret the feelings of a little child because it has not yet acquired the use of articulate speech, we are not well fitted to treat the diseases incident to infancy, and have yet to cultivate a most important part of our professional education. The simple wagging of a dog's tail conveys to his master a clear and distinct expression of the feelings which animate his canine breast; and do not the calm repose, the sparkling eye, the joyful crowing of our little patients manifest their relief from suffering as decidedly as the sleeplessness, the fretfulness, and the shrill cry of pain tell of discomfort and distress? But Dr. Cairns does not believe that by abstracting blood from an inflamed part you can in the least degree either reduce or modify the inflammation. The part, he says, continues to be as red, as hot, and as painful as before. Such ideas are only to be explained on the supposition that our friend never practises local depletion, and is consequently a stranger to the beneficial effects of such a remedy. Has he never seen relief following the opening of an abscess, or the application of leeches to a swelled testicle, or to the belly in a case of acute peritonitis? If he has not, then I can easily comprehend why he doubts that the abstraction of a little blood from a congested gum can alleviate pain.

That scarification may prevent and arrest convulsions I firmly believe, and in this opinion I know that I am supported by a perfect cloud of witnesses. Dr. Brown-Séguard has shown how easy it is by pinching or otherwise irritating certain nervous filaments in the guinea-pig to induce convulsions; and I think one can without difficulty understand how irritation of the branches of the fifth pair may produce convulsions in infants whose nervous system is so susceptible of impressions. That the convulsions in my two cases were caused in this way, and that they were arrested by relieving the congested gums, I have not the faintest shadow of a doubt. Dr. Cairns may say that the cessation of the attacks following upon scarification was a mere matter of coincidence and nothing more, and that the convulsions might have disappeared even suppose nothing had been done. This I do not deny; but I am inclined to think that, instead of ceasing spontaneously, there was a much greater probability that they would have continued. Besides, this is not, in my opinion, the proper spirit in which one should discuss the influence of any remedial measure. The progress of medical and all other science is no doubt furthered by a certain amount of wholesome scepticism, but surely it must be retarded if we doubt everything and believe nothing. As was well remarked by Dr. James Young, in a previous discussion on this subject—"It is imperative, in cases of convulsions, to give every relief we have in our power, and there should be no waiting to see what nature is going to do." I do not consider myself a heroic practitioner in any sense of the term, but at the same time I have no sympathy with those who stand idly by when something ought to be done. There is a great deal of truth and a spice of grim humour in the remark of one of the fathers of medicine, that the expectant treatment of disease is "meditation upon death." And I think it is highly culpable to refuse to perform so trifling an operation as scarification of the gums when we are convinced that it is in them that the source of the irritation resides.

Dr. Cairns's second question was, Does scarification do any harm?

To this I reply that, so far as my experience goes, it does not. Indiscriminate lancing of the gums cannot but be productive of mischief, but in properly selected cases I believe the operation is never followed by any evil consequences. That it may occasionally lead to fatal hæmorrhage I cannot deny; but such cases are extremely rare, and can only be regarded as accidents, against which it is almost impossible to provide. The extraction of a tooth may lead to death in the same way, but no one should on that account denounce the operation as an unjustifiable one. Besides, as Dr. Ritchie suggested, the existence of the hæmorrhagic diathesis might be ascertained by inquiry as to the history of the vaccination.

Dr. Cairns's third question was, Is scarification, in the circumstances, warrantable? He thinks it is not, because it inflicts unnecessary pain, superinduces some of those conditions which it professes to remedy, and, at the best, is a mere experiment. In regard to the two first mentioned reasons, I have nothing further to say than merely to repeat what I have stated already, that in properly selected cases no such objection can be for a moment entertained. But he says scarification is at the best an experiment. Now, by an experiment I understand something that is done in order to discover an uncertain or unknown effect. But the effect of scarification is neither unknown nor uncertain, and therefore scarification cannot properly be called an experiment.

We know positively that irritation of a nerve-trunk may induce convulsions, and in dentition how very often do we find the trifacial excited by inflammation of the gum. The lancing relieves congestion, tension, and pain, and by allaying irritation prevents or arrests convulsion. Such, at all events, is my belief—a belief which the experience of my seniors tends to strengthen and confirm.

ART. 272.—*Congenital Cataract in Children Simulating Short-sightedness.*

By JOY JEFFRIES, M.D., of the Boston Eye Infirmary.

(*Medical Times and Gazette*, November 13.)

Dr. Joy Jeffries, of the Boston Eye Infirmary, calls the attention of non-specialist Practitioners to an interesting subject—namely, “Congenital Cataract in Children simulating Near-sightedness.” The real nature of the affection, he says, is apt to be overlooked until it has attained a much older date than it ought to have before being submitted to treatment. As in congenital cataract most of the rays of light are obstructed in their passage through the central portion of the lens, a certain degree of dilatation of the pupil facilitates their access through the lateral portions, and the child, while reading, seeking to avoid the stimulus of light in order to obtain this dilatation, turns its back to the window, contracts its brow, and partially closes its eyelids—that is, closely imitates the procedures of a person who is near-sighted. So, also, to retain a larger picture on the retina, or get the light sideways, he holds the book close to the eyes, exactly simulating what a near-sighted

person without glasses must do. The opacity of the lens may be of such a character, or so far back in the lens, that the pupil, to the inspection of an unaided eye, may offer nothing abnormal, and the child may be pronounced as simply near-sighted. The ophthalmic surgeon is therefore not consulted until much too late; for, the earlier congenital cataracts are treated in children, the greater the chance of restoring and retaining useful vision. The cataract in the course of time becomes more difficult of removal, and the retina, deprived of its proper stimulus of light, does not undergo a degree of development proportionate to the rest of the eye. Consequently, if the pupil is successfully cleared by the operation at a late period, and light thus freely admitted to the retina, the patient will not retain the same power of vision or appreciation of objects which he would have done had he been operated upon earlier.

"This the ophthalmic surgeon too often sees, and he may even be blamed for not having accomplished what would have been a miracle. Again, I would repeat, the earlier they are done the better. The trustees of the Royal London Ophthalmic Hospital call the especial attention of the public to the necessity of bringing children for operation at an early period, instead of allowing their eyes to be damaged by delay. The average age of the last 500 cases brought there was *seven* years. To show the necessity of my directing physicians' attention particularly to this point, I may say that the average age of the patients with congenital cataract brought during the last four years to the Massachusetts Eye Infirmary was *twelve and a half* years. Finally, I would again remind physicians, when they notice the little ones shunning the light and holding the book near to the eye or sideways, and the parents complaining that they seem dull in learning their lessons, to remember that *cataract*, and not simply near-sightedness, may be the cause, although their eyes may look perfectly natural without ophthalmoscopic examination."

ART. 273.—*On Vaccination.*

By M. DEPAUL.

The following conclusions were given by M. Depaul in the course of some remarks made during a discussion at the Academy of Medicine of France.

1. Vaccine when carried from arm to arm, undergoes after a certain number of generations, an indisputable loss of power.

2. This degeneration is attested by the progressive diminution of the local and general phenomena which belong to cow-pox from virus which possesses complete activity, by the more frequent appearance of variola vaccinated subjects, and by the considerable success obtained with re-vaccinations.

3. Vaccinal syphilis, unknown for a long time, is at the present day an undoubted fact, and it is owing to clinical observation well comprehended and rightly interpreted, that this disease has found a perfectly distinct place in the nosological scale.

4. Cowpox when maintained in the bovine species, that is to say upon its native soil, preserves, for many generations, an energy and activity which are indispensable for assuring its preservative properties when it is inoculated on man.

5. The inoculation of cowpox thus perpetuated, is an assured means of warding off vaccinal syphilis and of rendering to vaccine all the prestige required for making it truly usely.

6. It appears to be demonstrated, by experiments already numerous, that vaccine when weakened in the human organism may be renovated with advantage by a fresh germination in the bovine species.

ART. 274.—*Vaccination direct from the Heifer, or Animal Vaccination.**

By H. BLANC, M.D.

(*British Medical Journal*, September.)

Dr. Blanc included his remarks on animal vaccination in five propositions. 1. The healthy heifer, inoculated with fine spontaneous cowpox, supplies a vaccine lymph free from all morbid and diathetic principles. The most distinguished veterinary surgeons had years ago stated that calves were not liable to any diathetic disease, nor to the spontaneous development of any infectious disease. On the other hand, though vaccination in the ordinary mode, if performed with proper care, was harmless, the transmission of disease by it, under certain circumstances, was an acknowledged fact. 2. Spontaneous cowpox transmitted through the bovine race is more active, more lasting in its effects, and more likely than humanized lymph to create a perfect immunity. In support of this proposition, Dr. Blanc adduced evidence from the writings of Jenner, Dr. E. Ballard, Mr. Marson, Dr. Seaton, &c., to show the increasing susceptibility to smallpox, and the increasing fatality from the disease; and he drew the following inferences:—*a.* Direct inoculation from the cow is, according to the testimony of Jenner and others, a most perfect and lasting protection against smallpox. *b.* A few cases of post-vaccinal smallpox were noticed as soon as natural animal vaccination was superseded by the use of humanized lymph; but they were still rare for the following reasons:—greater activity of the lymph, not having as yet undergone many transmissions, and the short time since vaccination was performed. *c.* From perfect immunity in those inoculated with spontaneous cowpox, we arrive from a few rare occurrences, to a small percentage, gradually but steadily increasing, until in 1864 it reached the very high average of 84 per cent. *d.* Among those protected by spontaneous cowpox there is no fatality. 3. Spontaneous cowpox, by being transmitted only through the bovine race, retains all its essential qualities. Cowpox is a disease of the bovine race, as smallpox is of the human race. Each of them, transmitted through the race to which it belongs, retains its own properties. 4. Vaccination

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July, 1869.

direct from the heifer offers all the characteristics of the cowpox-vesicle as described by Jenner, Geely, Bousquet. &c., with such modifications only as are due to the passage of the lymph through young and healthy animals. The characters of vaccination with heifer's lymph were—rare activity, later development, a lengthened duration, and a well-marked cicatrix. 5. By animal vaccination, we have always on hand an unlimited supply of good vaccine lymph. With one heifer 500 persons can be vaccinated; with one heifer ten heifers can be inoculated; and, as it requires only five days for the vesicle to be ready for use, by animal vaccination, at six days' notice 5000 persons can be vaccinated; at twelve days' notice 50,000, and so on.

ART. 275.—*On Animal Vaccination.**

By P. M. BRAIDWOOD, M.D., Birkenhead.

The intention of the author's remarks was to present a comparison of the present method of arm-to-arm vaccination with the proposed method of animal vaccination.—1. The advantages of the mode of vaccinating children with lymph which had passed through a series of human generations, were its facility, the convenience of removing lymph at such an easily remembered date as the eighth day, or the "day week" after vaccination, and the cheapness with which this plan could be prosecuted. The facility connected with the employment of humanised lymph consisted in the large amount of lymph derivable from human vesicles, and in its fluidity, which allowed more of it to be used, and enabled it to be readily received into capillary tubes for the purposes of preservation and transportation. The eighth day after vaccination was a very easily remembered date; and the present plan had now been so long in general usage, that parents would usually of their own accord bring the child back for inspection at that date. This method was the cheaper of the two, as it cost only the time occupied in performing the operation. 2. The disadvantages of the present method consisted in any imperfect protection against smallpox, and in the possibility of the transmission of human diseases by humanised lymph. In favour of the opinion that the exclusive use of vaccine lymph, which had passed through numberless human generations, afforded an imperfect protection against smallpox, the following arguments were brought forward. The vesicles were not so large and well formed; the lymph derived from them was not so beautifully clear and transparent; and the concomitant irritative process was not so well marked as in the true Jennerian vesicles. Moreover, the period of protection against variola did not extend over so many years now as it used to do. Statistics showed an increased death-rate from variola in later years as compared with the earlier part of this century. The chief objection, however, to

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July, 1869.

the present mode of vaccinating, was the possible transmission of human diseases by humanised lymph. It had never yet been proved that any disease, excepting syphilis, could be introduced into the human body by inoculation or injection; and syphilis, as far as our present knowledge extended, was inoculable either through the blood or through its special virus. There was as yet no proof that vaccine lymph, pure and unmixed with blood, could be the means of conveying syphilis or any other disease from one human being to another; though the supposition that the serum of the blood was the agent in hereditary cases might serve to favour this view. It was probable, however, that vaccine lymph became changed by being engrafted on another animal species, and lost its primitive qualities by being continuously transmitted from one member of the new species to another without recourse to its original source. It was impossible to say through what an endless variety of human constitutions the vaccine lymph had passed in use in this country since Jenner's time, and to what manifold evil influences it had been exposed. If this were so, and if it were to be believed that the vaccine virus, on its introduction into the human economy, was absorbed and exercised an influence which resulted not only in a local effect, but which affected the whole system, was it not probable that the lymph employed in our day for arm-to-arm vaccination was not really the same as that used by Jenner, was not so efficacious, was possibly diseased; therefore, that it should be renewed?—3. The advantages ascribed to animal vaccination were, a greater protection against smallpox, the obtaining of an endless supply of reliable lymph, and the impossibility of transmitting disease. The vesicles obtained by vaccinating from the heifer were finer; the lymph was more crystalline in appearance, though smaller in quantity; the areola was less indurated, and indicated a more healthy inflammatory process; the progress of the disease was slower, and its result, the cicatrices, were better marked than in the case of vaccinations from arm to arm: hence it was probable that a greater protection against smallpox was afforded by animal vaccination. This new method has not yet been sufficiently long in use to allow of proving by statistics whether or not it afforded a longer protection against variola. By means of animal vaccination, however, an endless supply of reliable lymph could be procured; not through the size of the vesicles, but from their number; *e.g.*, on one heifer, from 150 to 200 punctures could be made; and from each vesicle three children could be vaccinated in six places (three on each arm): hence from one heifer, from 450 to 600 children could be vaccinated, and from 2700 to 3600 vesicles could be produced. Moreover, during an epidemic, by vaccinating a heifer with three or four tubes of heifer lymph, in four days thereafter a hundred children might be vaccinated; whereas several children would require to be vaccinated in order to obtain an equivalent supply of humanised lymph, and there would be a delay of eight days. Lastly, by employing animal vaccination alone, it was impossible to transmit disease, because a healthy heifer should always be chosen for the purpose, because the cows from which the heifer was vaccinated were healthy milking cows, and because heifers at the age at which they were used for this purpose (six to eight weeks old) are liable only to diseases which were not communicable, and which were readily recognised.—4. The disad-

vantages of animal vaccination were said to consist in its not taking, and in the outlay of money required for its prosecution. This new method had, however, been now so perfected that failure with the employment of heifer lymph was a rare occurrence. In St. Petersburg, when children were vaccinated directly from the heifer on the fifth day of the disease, only two per cent. of failures were met with; when they were vaccinated on the fourth or sixth days of the disease, four per cent. of failures occurred; and if they were vaccinated on the seventh day of the disease in the heifer, the failures increased to ten per cent. The pecuniary expense of prosecuting animal vaccination was, however, considerable. The objection to the exclusive employment of humanised lymph which weighed most with Dr. Braidwood was, that it was probable that the original cow-lymph, by long and uninterrupted transmission through human beings, had undergone a retrograde metamorphosis, had lost certain essential qualities necessary to render it a thorough protection against variola. The prosecution of animal vaccination was too costly to permit its general adoption by practitioners; but he felt sure that it would be most advantageous to have institutions established in some of the largest towns for carrying on the method of vaccinating from the heifer. To these establishments those could repair who wished to have their children vaccinated directly from the heifer, and through them pure, reliable vaccine lymph (lymph which had never been in contact with human blood) might be procured by medical men desirous of employing it.

ART. 276.—*On the Comparative Protective powers of Animal and Human Vaccine Lymph.**

By A. B. STEELE, L.K.Q.C.P.I.

(*British Medical Journal*, September 4.)

Mr. Steele argued that animal vaccination—that is, the vaccination of the human subject direct from the heifer, as a substitute for or auxiliary to infantile arm-to-arm vaccination—is not necessary; and he adduced the following reasons. 1. Humanised vaccine lymph, when carefully selected and properly employed by arm-to-arm infantile vaccination, is as certain and complete a protection against small-pox as it is possible to confer—equal, in fact, to the protection afforded by small-pox itself. 2. Human vaccine lymph, when properly managed, does not degenerate nor lose any of its prophylactic power by a continued transit through successive subjects. 3. It is no proof that the vaccine lymph now in use has lost any of its original infective or protective power, to adduce the well known fact that small-pox still appears among the population from time to time, and that much of the vaccination in this country—as much as fifty per cent., according to her Majesty's Inspectors—has been found to be infective and of inferior quality. 4. The supply of human lymph afforded by the stations of the National Vaccine Establishment is abundant, continuous, and sufficient to meet the requirements of the public.

* Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July, 1869.

5. Human vaccine lymph is safer, more certain in its effects, and is in every respect more suitable for the purpose than animal lymph. The question of the transmission of syphilis by vaccination, although maintained by many authorities, has been thoroughly and satisfactorily disposed of by Dr. Seaton.

ART. 277.—*On the Transmission of Measles; the Duration of its Incubation; and the Pharyngeal Affection characteristic of this First Period.*

By M. GIRARD, of Marseilles.

(*Gazette Hebdomadaire*, No. 38, 1869. Communicated to the Société Méd. des Hôpitaux.)

Many physicians think that the period of decline of contagious febrile exanthems is that during which transmission takes place most effectually. The question, however, is far from being decided. M. Girard has already communicated some researches upon this subject, and has concluded that transmission operates during the commencement, which conclusion then seemed disputable. An epidemic of measles which existed lately at Marseilles, supplied him with an opportunity for renewed researches, which confirmed entirely the results already enunciated in a former work. The new data of M. Girard are based upon a series of 108 cases, which were minutely observed and recorded.

Not one of these cases seemed to be of an essentially epidemic character. Epidemy acted then but very rarely as a direct cause, and its influence would be analogous to that of the electrical tension of clouds in time of a storm; contact alone may cause the malady to spring up, as contact alone or vicinity may make the spark pass between clouds charged with electricity. No one of the 108 cases presented an exception, so that the learned physician of Marseilles considers it as an established fact that measles is not transmitted but by contagion. This contagion even operates before the eruption, during *the prodromic period*. The following are the proofs:—

A rich family of Marseilles had a groom from Geneva. This man, on his arrival in the town, goes first to a house where his sister is a domestic, and does not enter the house of his new master until the following morning. Scarcely is he installed among them when he is attacked by measles. In the fear that the infant of the house would be contaminated, the servant is sent to the hospital. However, *twelve* days afterwards the infant is attacked with measles, and on the same day, at the same hour, another infant, who inhabited the house which the groom had visited, was also attacked.

In a very large house in Marseilles dwell two families, the mother and her daughter. Both have infants. When a child of the mother is attacked by measles, the other children are hurriedly removed, but two weeks afterwards were all attacked at the same time.

In three only out of 108 cases was the disease developed on the sixth day from the date of the morbid contact; in all the other cases it was the thirteenth or the fourteenth day—never before the thirteenth, never

after the sixteenth—on which the symptoms made their appearance. *The duration of the incubation may be definitely fixed between thirteen and sixteen days.*

Dr. Girard asserts that measles *does not develop spontaneously*. Contact with an individual actually affected is necessary. This becomes unquestionable when one is asked, like Dr. Girard, to follow exactly the filiation, and to establish the associations which the affected individual has had. The following is a case in support of this view:

A girl, eleven years of age, had measles. The mother is perfectly certain that her daughter had had no acquaintance and no contact with any person affected with measles. After a minute inquiry it is finally learnt that the young patient, thirteen days before falling sick, had played on the piano with a person who at that very time presented the early symptoms of measles.

Dr. Girard also calls the attention of his colleagues to an important peculiarity from a diagnostic point of view. He alludes to red spots, which are always observed on the velum palati four, five, or six days or more before the eruption. This sign, which constitutes a very important prodromic character, was never at fault.

From these observations on measles follows the practical conclusion, that one may, without danger, set the affected children free after the eleventh or twelfth day, and then discontinue the quarantine which is generally imposed upon them.

ART. 278.—*On the Enlargements of the Viscera which occur in Rickets.**

By W. H. DICKINSON, M.D.

(*Medical Times and Gazette*, September 25.)

Certain organs of rickety children, particularly the liver, spleen, and absorbent glands, are apt to become altered in a manner somewhat analogous to the change which occurs in the bones. The liver increases in size so as to project palpably below the ribs. It becomes dense, elastic, and pale. The most striking change in its structure is a morbid development of the portal fibrous tissue, which is often evident to the naked eye, circumscribing each lobule. The spleen undergoes in some cases an enormous increase, forming a hard tumour under the walls of the belly, which may reach from the diaphragm to the pelvis. It becomes hard and dense, and has a purple colour, sometimes mottled with buff, on which the white Malpighian corpuscles conspicuously show. These changes are due partly to a swelling of the delicate reticulum in which the splenic pulp is immediately contained, and partly to an increase in the cellular and corpuscular contents of the meshes. The latter change, however, is not always present, since the corpuscles in some cases become atrophied, the spleen then being hard, but not necessarily increased in bulk. The absorbent glands are often considerably enlarged,

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, June 22.

owing to an increase in their cellular and corpuscular contents. The kidneys become large and pale, owing to an increase of the epithelium in their convoluted tubes. None of the organs affected as described give any reaction with iodine. The change in the viscera is due not to the presence of any formation foreign to their structure, but to an irregular hypertrophy which alters the natural proportion of their tissues. The epithelial and corpuscular element is generally increased, while in the liver the Capsule of Glisson, and in the spleen the trabecular tissues are abnormally developed. It appears (so far as an analysis of the spleen can be taken as a guide to the general condition) that in the viscera, as in bones, there is a deficiency of earthy salts. The condition of viscera which has been described belongs especially to the first four years of life. It usually occurs in connexion with the external signs of rickets, though sometimes the visceral precede the osseous changes; and it not seldom happens that the visceral change may be extreme when the modification in the skeleton is but slight. The rickety state of the viscera, like the alteration in the texture of the bones, is transient in its nature. Under favourable circumstances the affected organs have a strong tendency to recovery, and, even when swollen to the utmost, will occasionally return to their natural dimensions. The change in the viscera appears to interfere comparatively little with their functions. The swelling of the spleen, indeed, when considerable, is often accompanied by much anæmia, but the change in the liver is unaccompanied either by ascites or jaundice, and though the kidneys may be decidedly enlarged, the urine remains free from albumen. When the visceral change has taken place to a considerable extent, the child is usually emaciated and anæmic, and is especially liable to be attacked by the diarrhœa, bronchitis, or pneumonia, to which rickety children are prone. These affections constitute the chief danger to which it is exposed. The treatment found to be beneficial is that ordinarily called for in cases of rickets. The diet should be nutritious and carefully adjusted, consisting of milk, beef-tea, meat, and wine, according to the age and state of the patient, while medicinally cod-liver oil is a prime necessity, and iron and quinine seldom fail to be advantageous. The rickety change which has been described differs both pathologically and clinically from the lardaceous or amyloid change on the one hand, and on the other from the enlargement of the spleen and absorbent glands which has been associated with the name of Hodgkin.

ART. 279.—*Lithotomy and Lithectasy in Children.*

By F. CHURCHILL.

(*Medical Times and Gazette*, June 12.)

Four very interesting cases of stone in the bladder in children have recently been operated upon in St. Thomas's Hospital with success; two of them by Mr. Solly, the patients being a boy and a girl; the other two by Mr. Sydney Jones, both being boys. The comparative immunity of children from renal or other complications is now recognised as one of the principal reasons why this operation is so much more successful in

children than in adults. It will be seen by the details given below that each case terminated most favourably; not a single untoward symptom occurred in any one of them, the progress toward convalescence being quite satisfactory. As they have now left the hospital quite well, it may be interesting to contrast the history and treatment in each case. In Mr. Solly's second case, that of a little girl, aged six, the stone was extracted through a previously-dilated urethra. Although the comparative success of this operation in children would warrant the surgeon in interfering as early as possible, the inexperienced lithotomist must understand that this success is mainly due to a careful *tactus eruditus* during the second stage of the operation, viz., the cutting into the bladder; for the prostate gland, being in an undeveloped condition, cannot serve as a guide to the groove in the staff. Then, again, additional impediments to the surgeon in reaching the neck of the bladder are the pyriform shape, and the position of the bladder, which is higher up in the pelvis, and consequently less fixed, than in the adult. In neither of these cases, however, was there any difficulty during the first or second stages. In the case of lithectasy, although the stone had been detected by the sound when the patient was laid on the table, Mr. Solly could not detect it with the forceps, the reason being that, with the first gush of urine, the bladder had formed an hour-glass contraction at its centre, and this contraction being felt, Mr. Solly passed the forceps well upward and backward, and found the stone lying at the fundus of the bladder. It was then removed without any difficulty. In Mr. Solly's first case the boy had been operated upon twice before, and on each occasion he had been troubled with a fistulous opening in the perinæum for some months after; ultimately it closed completely. It is now three months since the last operation, and the fistulous opening has almost entirely closed, only a few drops of urine passing this way during micturition, but not at any other time. In neither of Mr. Jones's cases had the patient been previously operated upon for stone. In the first case, that of a cripple, aged eighteen, the stone originally was an ordinary mulberry calculus, but it had become coated over with some large crystals of triple phosphate. Properly speaking, this lad, being beyond the age of puberty, should be classed with stone in adults, but, from the remarks which we have made, it will be seen that the general features of the case may be better compared with those occurring before puberty. The stone in the second case was about the size of a small hen's egg, and was found to consist for the most part of large conglomerate masses of uric acid crystals intermingled with layers of phosphatic deposit, especially toward the base, where the stone was flattened by resting upon the *bas-fond* of the bladder.

ART. 280.—*Diarrhœas of Children.*

By Dr. MÜLLER.

(Journal f. Kinderh., 1868.)

Dr. Müller discusses minutely the varieties of diarrhœa in children. First in the class of acute diarrhœa is the saburral diarrhœa of sucklings, the result generally of error of diet. He adds nothing but conjecture in explanation of the singular change of colour of the dejections from yellow to green after being exposed to the air. As to the choice of food, the selection of a nurse, he remarks that the microscope fails to distinguish milk that may be rendered poisonous by mental emotions. As a practical rule, he thinks it important to select milk the fat globules of which are as uniform as possible in size, avoiding milk containing very large globules intermixed with others of various sizes. After much experience, he concludes that pure cow's milk, sweetened with milk-sugar, used directly after milking, is the best substitute for human milk. He insists that the cows should be fed on hay only. The milk should not be watered or boiled. To preserve it from decomposition, it is necessary to prevent its exposure to air, not only to avoid oxygen, but also the sporules of fungi. It should be tested by litmus-paper, and, if found ever so slightly acid, rejected. He calls attention to a *brochure* by Folger—the artificial nourishment of infants with milk free from fungi (Münster, 1867), who describes an apparatus which secures the milk from access of air, not only during its flow from the cow's udder, but also during the sucking of it from the bottle by the child. As to medicinal treatment, Müller speaks well of calomel in small doses for the first day or two. He then describes successively—2. The saburral diarrhœa of older children. 4. The catarrhal acute diarrhœa, including the summer epidemic, the diarrhœa of dentition, and the sporadic infantile cholera. On the subject of the last Müller discusses the various opinions held concerning its pathology. The gelatinous softening of the mucous membrane of the intestinal canal occasionally found he does not regard as essential; he admits that it may be the result of *post-mortem* digestion, and says that, from a clinical point of view, a pathological softening of the stomach can only be inferred when, after an extremely short illness, and after the most decided and violent stomach symptoms, death has followed. But such cases are extremely rare, and in most cases where softening has been found after death no symptoms had led us to suspect such a condition during life. In treatment Müller has found nitrate of silver, one-eighth grain to one twenty-fourth grain, with sugar and gum, given four times daily, the most effectual remedy. As soon as symptoms of collapse begin, marked by paleness and a falling temperature, Müller has seen, in many cases, veratrum followed by recovery.

The Chronic Diarrhœas.—The common seat affected is the large intestines. They must be regarded as *chronic catarrh*, especially of the mucous membrane of the large intestine. Müller carefully discusses the treatment. In the form known as *lienteria*, in which there is such a condition of the intestinal canal that the food, quickly after ingestion, is expelled only superficially digested, Müller says *nux vomica* may be

regarded as a specific, whilst opium is quite useless. In the common form he recognises the value of nitrate of silver. He submits three conditions as indicating the use of this remedy: 1. Croupous deposits in the mouth and fauces, such as frequently complicate chronic intestinal catarrh. 2. A peculiar redness and smoothness of the tongue. 2. Irrepressible thirst.

ART. 281.—*On the Use of Pepsin in the Diarrhoea of Infants.*

By JAMES S. HAWLEY, M.D., of Green Point, Long Island, New York.

In a communication to the *Buffalo Medical and Surgical Journal*, Dr. Hawley calls attention to the use of pepsin in the diarrhoea of infants. He says:—

Premising, that the great predisposing cause of infantile diarrhoea is the state of evolution which the digestive system and its dependencies are undergoing during the period of dentition, the question of therapeutics becomes one of comparative simplicity, and the evident duty of the physician is to allay that irritation of the organs which is exhibited in vomiting and purging, first, by the removal of all extraneous sources of disturbance, such as food, improper in quantity or quality, by protecting the skin from too sudden and frequent changes of temperature; secondly, by sedatives, to subdue the excitement which the foregoing causes may have induced, and which, in the enfeebled condition produced by the transition state, are self-propagating; and, lastly, to impart to the struggling and overwhelmed digestive apparatus that assistance which will enable it to convert food from the character of a foreign, and therefore irritant, material, into nutriment which will reinvigorate the natural forces and enable them to accomplish successfully the great and necessary evolution through which they are passing.

As sedatives to the over-excited mucous membrane and glandular system of the stomach and bowels, the preparations of opium and the salts of bismuth stand pre-eminent. When irritation, without pain, exists, bismuth most promptly and satisfactorily allays it; but when accompanied with pain, the addition of a minute portion of opium becomes a necessary complement to its effectiveness.

We have now briefly noticed, in outline, the first two conditions of treatment, viz., the removal of external causes of irritation, and the allaying of the morbid excitement which has sprung from their agency; and it may be asked if the natural functions will not now resume their offices, and the health of the patient be restored? Doubtless such would be the case, did not the system labour under the combined effects of the transition state of dentition and the impairment of strength due to the morbid causes above enumerated, and for which the correctives have been proposed. But the circle of remedies is not yet complete. By the administration of pepsin we at once convert the ingesta into nutriment. They not only cease to be irritants to the digestive organs, but

are absorbed into the circulation, and become sources of power instead of weakness.

Now, we have fulfilled all the indications: first, to remove all sources of irritation from the quantity or quality of the ingesta, or change of temperature; secondly, allaying irritation by sedatives; thirdly, artificial digestion by the administration of pepsin. This simple but effective treatment is not new, but has more than once been presented to the profession for its approval.

ART. 282.—*Food for Infants.*

(*Edin. Medical Journal*, December.)

In the *Transactions of the Medical Society of the State of Pennsylvania* for 1868, is published an essay on the above subject, by Dr. Hiram Corson, of Montgomery County, in this state, which contains a great deal that is worthy of thought. We can find room only for the following extract:—

During the last few years I have noticed that all our young men, graduates of the medical schools of Philadelphia, who come to practise in the country, and even those whom I have met who practise in the cities, invariably give the same advice to the mothers who consult them in relation to the proper mode of feeding children to be raised by hand. They all direct them to give one-third milk and two-thirds water. And they give the reason for adding the water, viz., "The whole milk is too strong." Now, where do they get this knowledge? Has it come down from the authors already named to the present teachers, and do they so instruct their pupils? That is the rational conclusion. It appears, then, that from the time of Burns, and probably from a much more remote period, this opinion, that cow's milk is too strong to be used without free dilution has been handed down by writers and teachers with scarcely a doubt of its correctness. If we have made any progress in all this time, it has been not to lessen the dilution, but to increase it from one-half to two-thirds water; and with this the great body of the profession is satisfied; and yet in the very face of this treatment stands the appalling fact, that from "forty to eighty per cent.," "seven out of every eight" of the little creatures perish within a few months after their birth.

During a long and busy practice I have been enabled, I hope, to arrive at a better mode of feeding infants deprived of the mother's nourishment; and for the benefit of those who are just entering upon the duties of our profession, and who will be called upon for advice in this matter, I desire briefly to record my observations and experience.

Thirty-two years ago, it became necessary to have my own child reared by hand, and I then discovered how ignorant I had been in relation to the *quantity of food* necessary for an infant, and was also enabled to observe the effects of an insufficient amount of food. Subsequent observations through many years have convinced me that there is not more than one woman in five, and perhaps not more than one in ten, who

knows what amount of milk a child should have. Nor is there one physician in very many who can tell the mother or nurse what quantity it would need in twenty-four hours. I have repeatedly asked mothers and nurses and physicians, and it has been rarely that they have even approximated the truth. And this, because their attention had never been specially drawn to it. One would say a teacupful; another, not quite so much; a third, rather more; and a fourth, half a pint; and some, even as high as a pint, though they rarely named so much. And then, on being asked if they put water with the milk, they invariably replied, one-half water, or two-thirds water and one-third milk. Now, scarcely any child of one month will be satisfied with a pint daily; many will take a quart; the average is between them. But I do not mean that to this quantity twice as much water should be added, thus making nearly three quarts of fluid; for no child could take so much in twenty-four hours. Suppose, then, that a child can only take three half-pints of fluid into its stomach in a day, and two half-pints of it are water, it will then only get eight ounces of milk, when it needs twenty-four, or thirty-two ounces daily.

I feel quite certain that it is almost as easy to raise children by hand, if they have an abundant supply of good undiluted cow's milk, as it is by the breast. But the bottle should always be used instead of the spoon. My plan is to direct as much milk as the child can take, and as often as it wants it; but always of the temperature nearly of the mother's milk. In winter-time, or when milk is kept in a deep cave, or in a spring-house, I direct that as much boiling water be added to it as will bring it to that temperature. It takes but very little water, and is more convenient than heating it over the fire. To a pint of cool milk two tablespoonfuls of boiling water should be added, the whole then well sweetened. A healthy child of one month will take that much twice in the twenty-four hours. Some children at one month, or between one and two months, will take more than a quart daily, and a few can scarcely take so much. If, then, you are called to such cases as I have described, or to those milder cases where the child is fed half enough, or even a little more than that, place no reliance on the word of the nurse or mother, "that she feeds it plenty, or that it will not suck or eat, or cannot keep it down." I have frequently seen a mother let the hungry little creature tug and pull at her flaccid, milkless breast, without being aware that the child got nothing from it; and yet she thought "it was getting suck." In those cases hold back the medicine for a few days and try the milk. Those children who have been nursed and fed by the spoon will sometimes wholly refuse to take the bottle in lieu of the breast, and the mother takes it for evidence that they do not like the cow's milk, and will therefore attempt to raise them on some of the many farinaceous articles recommended, and in this she will be likely to fail. A little perseverance will generally induce them to take the bottle; and when once used to it, so that they can steady it in their own hands, they will rarely take too much.

I sincerely hope that our graduates hereafter will not go forth to practise, believing that the proper substitute for the mother's milk is *a mixture of two-thirds water and one-third cow's milk*. Rather let them be instructed that the higher the organization of the animal, the more

abundant will be the nutritive constituents of the milk; and as man is at the head of the animal creation, human milk is more highly organized than that of any other animal. If, then, you wish to use any other milk as a substitute for the mother's, instead of diluting it with water, it would seem to be more appropriate to add to it some nutritive substance.

Baron Liebig's soup is probably very good, for to five ounces of good milk he adds half an ounce of wheaten flour, half an ounce of malt flour, and seven grains and a quarter of cream of tartar, dissolved in one ounce of water. This is to be put on a gentle fire, and when it begins to thicken it is removed from the fire, stirred for five minutes, heated and stirred again until it becomes quite fluid, and finally made to boil. Separate the bran by a sieve, and it is fit to use. But how inconvenient for the poor to procure those ingredients and prepare them for the child every time that it needs food! Where milk cannot be procured, farinaceous substances may be used; but milk is better and more convenient.

I feel that some physicians who practise among the higher classes of society will regard these observations as having no reference to *their* patients, but refer wholly to the neglected children of the poor. It would be fortunate if it were so; but who has not seen the poor little emaciated child of rich parents dragged about in its little coach by the nurse, or lying on her lap on a cushion, as the large carriage rolled along to give it an airing, by direction of the physician, whose very precise directions had been to feed it every four hours, two-thirds water and one-third milk? Day after day, week after week, has he not visited and prescribed (not for the starvation, but) to improve its nutrition, to relieve its colics, to correct its sourness of stomach, to regulate its bowels, or, to sum it all up in one common phrase, "to build it up?" Did he succeed? No. Under the impression that the child's stomach was weak, not able to take much food, the quantity of food was diminished, a little lime-water, mint-water, or some other "corrective" added, and the little starving sufferer, never ceasing its low and plaintive moan, gradually passed away for ever. This is starvation in the midst of plenty—starvation by prescription. There is little difficulty in raising children by hand, if they are allowed a full supply of good milk. A great many struggle along on even half the proper quantity. But they are weak, thin, and of small growth. Children who are fed on the water-and-milk mixture are sometimes saved by a habit which prevails among the poor, of giving it, while the mother is eating, small bits of bread or biscuit soaked in coffee, or with molasses or sugar on it. Thus very soon the little thing becomes clamorous for it, and the mother, in order to keep it quiet, will soon give it quite a slice of bread, or a small biscuit to suck at. Children of a few months will sometimes thus be saved.

How common it is to hear a mother say, "My child is getting very hearty now; but until it was nearly a year old it was very puny. I thought I would lose it." It was puny for want of food; it was starved on water and milk; but when it got old enough "to sit up at the table, and get a little of anything," it began to improve; and yet the mother did not perceive the cause of the change.

ART. 283.—*Effects of Tobacco Smoke upon Children.*

(*Dublin Quarterly Journal*, November.)

The *Revue de Thérapeutique Médico-Chirurgicale*, for 15th February, 1869, contains a paper on the effects of tobacco smoke upon children, contributed by Dr. E. Decaine. Having described his experience in relation to this matter, he concludes:—1. That the pernicious effects of tobacco smoke upon children are incontestable. 2. It produces pallor, chloro-anemia, palpitations of the heart, diminution of the normal number of blood globules, and difficult digestion. 3. The ordinary treatment for chloro-anemia and anemia produces no effect so long as the habit of smoking is persisted in. 4. The children who are addicted to smoking exhibit a want of intelligence, and have a liking more or less decided for strong drinks. Children who abandon the practice of smoking before any serious organic lesions are produced, speedily recover from disorders of the system, of which even traces do not generally remain.

In the last number of the *North American Review*, Hammond argues at great length against the notion that the practice of smoking tobacco produces much disease amongst adults.

APPENDIX.

ART. 1.—*On Atrophy induced by Cicatrix, and its Surgical Value.*

By T. PRIDGIN TEALE, M.A., F.R.C.S., Leeds.

(*British Medical Journal*, December 11.)

In this paper Mr. Teale links together a series of facts which show that such tissues as derive their nutrition by vessels passing through cicatrices have a tendency to waste—a tendency which does not become evident until some time has elapsed from the completion of cicatrisation, and continues for months, or even years, until, in some instances, the dependent tissue fades away completely. Mr. Teale's attention was first clearly fixed upon this interesting process by the following case, described in his paper "On the Relief of Symblepharon by Transplantation of Conjunctiva" (*Ophthalmic Hospital Reports*, vol. iii., Oct. 1861).

"*Case.*—Joseph Jessop, a puddler, was struck in the right eye by a hot cinder, which produced a slough of conjunctiva and cornea, ending in symblepharon. The middle portion of the lower eyelid (about one-third of an inch in breadth) was adherent to the eyeball, and encroached upon the cornea to which it was cicatrised, so as to conceal the lower margin of the pupil, and slightly to interfere with vision.

"In April, 1860, twelve months after the accident, the following operation was performed, in order to release the eyeball from the adherent lid. The eyelid having been freely dissected from the globe so as to set the eye at liberty, two flaps of conjunctiva from the uninjured upper part of the eyeball were dovetailed into the site of the symblepharon, but the portion of skin forming the apex of the symblepharon was left adherent and undisturbed on the cornea.

"Shortly after the operation, the isolated skin left on the cornea began to waste, becoming more flat and translucent, and in eighteen months it had vanished, leaving the cornea transparent, and flattened from the loss of substance sustained at the time of the injury. The site of the adherent skin could only be detected by oblique illumination; sight had improved; and the movements of the eyeball were restored by the interpolated conjunctiva.

"Here we have the clear and unmistakable fact, that a portion of skin became atrophied and disappeared, after its isolation by cicatrix

had been rendered complete by operation. Let us first inquire into the nature of the process by which these changes are brought about, and then ascertain whether the same principles may not be applied in many departments of surgery.

“We are familiar with the fact that cicatrix, visible on the surface of the body, both during its formation and for months or years after its completion, contracts. This process of contraction, going on over the whole cicatricial surface, not only draws parts together, but narrows and strangles the channels which pass through the cicatrix, lessening the calibre of arteries, strangling veins at their exit, and thereby rendering them visible on the surface of the scar. Under this same process, a rectum may be strictured after too free destruction of its circumference for cure of piles; or the urethra may be strictured after amputation of the penis where the surgeon fails to provide against such a result. All these characters of visible cicatrix are familiar to us on the surface of the body. Are they less true for unseen—subsurface cicatrix, that layer of new material by which, for instance, a transplanted flap of skin grows to the raw surface made by the surgeon? Such a flap, on its transplantation, is at once glued to its new bed by a material in which vessels are rapidly formed, which aid in maintaining in life and vigour the skin thus suddenly deprived of a great portion of its blood-supply. These newly formed, numerous, and vitally important vessels, traversing as they do cicatrix, are doomed, after a time, to be one by one reduced or cut off. Does the flap, then, become atrophied? Certainly not. The gradual lessening of the blood-supply traversing the treacherous cicatrix is balanced by the compensating enlargement of the unembarrassed vessels of the sound pedicle, whereby the flap is enabled to maintain its normal nutrition—in fact, to “keep up to the mark.” Sever the pedicle, however, and isolate thereby the transplanted portion of the skin completely by cicatrix, and the intruded flap, like the island of skin on the cornea in the case of symblepharon, must lose condition, and undergo atrophy with a completeness proportioned to the curtailment of its blood-supply.”

The author shows that the principles here worked out in one case of symblepharon are neither exceptional nor limited to a single class of cases, but that additional illustrations may be drawn from—*a*, Symblepharon; *b*, Cutaneous Nævus; *c*, Subcutaneous Nævus; *d*, Rhinoplastic Surgery; *e*, Growths encroaching upon the Cornea; *f*, Syndectomy. Finally, he deduces suggestions for the treatment of tumours not amenable to extirpation by the ordinary methods. In conclusion, Mr. Teale asks whether we may not so plant cicatrices around or in the interior of tumours which we cannot, or prefer not to extirpate, as to determine the balance of nutrition against growth, and in favour of atrophy. May we not hope, like the French surgeon, to be able to cause the disappearance of tumours without the production of visible cicatrix?

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